

The *Hilara* species (Diptera, Empididae) of Switzerland, with respect to the fauna of the Alps and other central European mountains

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The *Hilara* species (Diptera, Empididae) of Switzerland, with respect to the fauna of the Alps and other central European mountains.

- Within the fauna of the Alpine region 118 *Hilara* species are recognized including some species which are not yet known from the region but may be expected. The species are keyed, and full distributional data are given for the Alps. Eight new species are described: *Hilara leukensis* sp. n., *H. luteihalterata* sp. n., *H. planti* sp. n. and *H. crossleyi* sp. n. from the Swiss Alps, *H. brevistriata* sp. n. from the Swiss and Austrian Alps, *H. parvimaior* sp. n. from the Swiss and Italian Alps, *H. sirbitzmatrona* sp. n. from the Austrian Alps, and *H. polleti* sp. n. from the Bulgarian Rhodope Mts. Several further species are fully redescribed and illustrated for the first time (*H. cinereomicans* Strobl, *H. sartor* Becker, *H. tiefji* Strobl, *H. tanychira* Strobl, *H. dimidiata* Strobl, *H. simplicipes* Strobl, *H. calinota* Collin, *H. pruinosa* Wiedemann in Meigen, *H. hystrix* Strobl, *H. pectinipes* Strobl), and the females of *H. helvetica* Chvála and *H. zermattensis* Chvála are described here for the first time. A lectotype is designated for *H. pilosopectinata* Strobl. The following new synonymies are proposed: *Hilara maior* Strobl, 1910 (= *Hilara tatra* Niesiolowski, 1991) and *Hilara tyrolensis* Strobl, 1892 (= *H. miriptera* Straka, 1976). The synonymy of *Hilara longesetosa* Strobl, 1910 with *H. pilosopectinata* Strobl, 1892 is explained. *Hilara longicornis* Strobl, 1894, described and still known only from the Hungarian lowlands, is fully redescribed and its correct classification within the genus *Hilara* is discussed in the section "additional species". The same applies to *Hilara flavocoxa* Straka, 1976, a species known only from a single locality in highlands of central Slovakia.

Keywords: Diptera - Empididae - *Hilara* - Central Europe - faunistics - taxonomy - key - new species - new synonymies.

INTRODUCTION

There are two recent basic monographs available for the genus *Hilara* (Diptera, Empididae) in Europe, one covering all Fennoscandian, British and partly central

European species (Chvála, 2005a), the second deals with the Mediterranean fauna (Chvála, 2008a). There is, however, a distinct group of species mostly of central European distribution, mainly mountain forms, which were included neither within the north European fauna, nor in the Mediterranean study. Such species were not keyed in the above two monographs. Therefore, the authors present here a publication which enables the identification of all species in temperate central part of Europe, covering in particular the special mountain and Alpine species of the genus. In addition, some mountain species that occur also in the north (mostly species of boreomontane distribution), or species known also from the warm coastal lowlands, are included here as well. Furthermore, all species which were found or may be found in Switzerland are discussed and keyed.

If the reader cannot identify "his" species with the present key, then he is recommended to consult the identification keys in Chvála (2005a) and Chvála (2008a). There is still a real possibility that some southern species are occurring in more northern regions, like the lowlands of the Alpine region. If the reader does not succeed even after that, then there is only a third possibility: he has a new, undescribed species before him.

The fundamental work on the Alpine *Hilara* (Diptera: Empididae) is undoubtedly the more than 100 years old monograph of Strobl (1892a), based mainly on the fauna of the Austrian Styrian Alps. Strobl recognized at that time already 62 species and several varieties or forms. Of the 27 described new species, 20 of them remain valid, and only 7 species were later regarded as junior synonyms. All the 5 new varieties or forms described by Strobl in this monograph were later raised to specific rank and are now considered to be valid species as well. The 7 taxa which were later synonymized include new descriptions of both sexes of *Hilara albitarsis* von Roser (unknown to Strobl), or the complex of the north European group of *H. longivittata* Zetterstedt. This species was described by Strobl as the new species *H. bivittata*, and all forms described as new by Strobl represent now well recognized species of the distinct *H. andermattensis* group of species, a complex of exclusively high alpine *Hilara* species. Strobl continued to study the Styrian *Hilara* species in the fundamental five-volume work "Die Dipteren von Steiermark" published in 1893 – 1910.

Two further monographs dealing with the Alpine *Hilara* species by Keiser (1947) and Franz (1989) do not reach the high quality of the Strobl's publications and, therefore, they are not discussed here more in detail. For instance, Keiser (1947: 126) recognized only 9 species of *Hilara* in the Swiss National Park. All species were listed from many localities. A re-examination of them by the first author (MC) revealed that these specimens belong to complexes of several related species. The same applies to the elaboration of the genus *Hilara* by Franz (1989: 321) in the two-volume monograph on the Alpine Diptera of Austria. Franz mentioned altogether 73 *Hilara* species on pp. 321-330, but many of these names are unavailable, or synonyms, and most species are based mainly on misidentifications of E. O. Engel and E. Lindner, who both were not at all specialists of this genus.

It was later Collin (1961) in his monograph of *Hilara* of the British Isles whose treatment is of a very high level. He understood the genus well but, since he did not study the Strobl collection, some of the species described by him (Collin, 1927) were later found to be younger synonyms of Strobl's taxa.

In all 65 *Hilara* species were recorded in Switzerland in the first Checklist (Chvála *et al.*, 1998), additional 13 species of the genus were included in the first Supplement (Merz *et al.*, 2002), and a further 8 species in the second Supplement (Merz *et al.*, 2007). The present revision includes a further 12 species found in Switzerland for the first time but 3 species are deleted because of misidentifications. Therefore, in total 95 species are recorded with certainty from Switzerland.

THE ALPINE FAUNA

The species composition of the 118 *Hilara* species recorded in the present publication is especially interesting. There is a large group of 18 clearly alpine endemics, i. e., species known from the Alps only (*H. alpicola* Chvála, *H. cinereomicans* Strobl, *H. planti* sp. n., *H. crossleyi* sp. n., *H. tiefi* Strobl, *H. sartor* Strobl, *H. leukensis* sp. n., *H. brevistriata* sp. n., *H. luteihalterata* sp. n., *H. helvetica* Chvála, *H. parvimaior* sp. n., *H. styriaca* Strobl, *H. merzi* Chvála, *H. zermattensis* Chvála, *H. andermattensis* Strobl, *H. simplicipes* Strobl, *H. sulcitorsis* Strobl and *H. tyrolensis* Strobl); 11 species are boreo-montane faunal elements (some perhaps of boreo-alpine distribution if of the last glacial period origin), though scarcely they are of arcto-alpine distribution (for instance, *H. setosa* Collin, *H. eviana* Straka, *H. griseola* Zetterstedt, *H. intermedia* (Fallén), *H. bistrinata* Zetterstedt, *H. coracina* Oldenberg, *H. scrobiculata* Loew, *H. diversipes* Strobl and *H. hybrida* Collin). Finally, 8 species are exclusively mountain species of central temperate Europe which are known besides the Alps also from other central European mountains (*H. nigrita* Chvála, *H. goetzei* Chvála, *H. perversa* Oldenberg, *H. tetragramma* Loew, *H. quadrifaria* Strobl, *H. calinota* Collin, *H. trisetata* Chvála and *H. hystrix* Strobl). Four species are known in temperate central parts of Europe, which occur both in lowlands and high in mountains, including the Alps (*H. pilospectinata* Strobl, *H. borealis* Oldenberg, *H. pectinipes* Strobl and *H. bohémica* Straka).

It is difficult to classify at present the mountain *Hilara* species within special altitudinal zones, as it was done for instance by Ziegler (2008) for the fauna of Diptera in the Italian Stilfserjoch National Park. Collecting efforts in the long and diverse Alpine chain from western Austria to the Mediterranean coast of France and Italy are very scattered and insufficient and many regions are unstudied. Therefore the available data is too scarce to allow a classification of ecological or distributional patterns of the species.

The other *Hilara* species occurring in the Alpine region are widely distributed in Europe, from the Fennoscandia in the north, and through central temperate Europe south at least to the Alpine region, very often right up to the Mediterranean. In central parts of Europe they are distributed mainly in lowlands and submountain regions, and absent from higher altitudes.

There is, however, a small group of about 7 species representing faunal elements of south-western Europe, which are mainly widely distributed in Spain, often including the Pyrenees, and distributed north-west along the French coast right up to the western part of the Alpine region, especially south east France and the adjacent parts of Italy and Switzerland. As examples may be mentioned the following species: *H. morenae* Strobl, *H. ponti* Chvála, *H. veletica* Chvála, *H. pygialis* Chvála, *H. prui-*

nosa Wiedemann, but also for instance *H. pseudocornicula* Strobl, a very common species in Spain and the Mediterranean which was known for a long time also from western parts of Europe along the Atlantic coast as *H. subpollinosa* Collin. These species are discussed in the corresponding paragraphs on "Distribution". There are still possibilities that some further southwestern species of the Spanish fauna will be found in the Alpine region in the future.

There are, however, a further two not clearly mountain *Hilara* species which are mentioned here, as they were not included in the previous two main monographs on the genus *Hilara* in Europe.

First, it is *Hilara longicornis*, described by Strobl (1894) from 10♂ and 3♀ collected by Prof. Thalhammer on 1.v.1893 at Hajós in Hungary. Five syntypes (3♂ and 2♀) are in the Strobl Collection in Admont. Becker (1894) erroneously supposed it was a species of the genus *Itaphila* Zetterstedt, 1838 (cited as *Steleocheta* Becker, 1887) of the empidid subfamily Oreogetoninae because of some morphological peculiarities (very long antennae, simple unmodified legs, the open rather "*Empis*"-like radial fork). However, *H. longicornis* is a typical *Hilara* species possessing all the main generic characters. The species is keyed below within the mountain species, and it is redescribed in the section "additional species".

Secondly, it is *Hilara flavocoxa*, described by Straka (1976) from the locality Turček at Kremnické vrchy (Kremnické hills) in the lowlands of central Slovakia. This species seems to be closely related to *H. merula* Collin and, like the preceding *H. longicornis*, it is also fully redescribed and discussed in the section "additional species".

THE FAUNA OF SWITZERLAND

Austria has a long dipterological tradition, in particular for the genus *Hilara*, thanks to the activity of Strobl. On the other hand, Switzerland did not receive a particular attention for this genus in the past. Before 1930 only few specimens were collected by Th. Becker and L. Oldenberg during their short visits in few places in the Alps. Later, F. Keiser collected extensively in the Swiss National Park and published his identifications (Keiser, 1947). However, he did not specifically search for *Hilara* and, therefore, the fauna remains poorly known even for this region. Later, Ringdahl (1957) mentioned 4 further species. The main efforts with specific collecting of *Hilara* started only recently with G. Bächli (from 1971), J.-P. Haenni (from 1980) and the second author (BM) (from 1994) who organized several shorter and longer field trips to various localities in the Swiss Midlands and the Alps, sometimes helped by students or visitors. Their specimens were mostly included in the numerous revisions of the first author, the checklist and the two supplements (see references). As only few dipterists have made a special effort they were not collecting at all suitable localities, and many regions in Switzerland remain unstudied. This is in particular the case for the Jura mountain chain for which almost no specimens are available and which may host further nordic species as it is for instance the case of the Chloropidae (Merz *et al.*, 2005).

NEW SYNONYMIES

Three new synonymies of the Alpine *Hilara* species are given below. First, it is *Hilara tatra* Niesiolowski, 1991, described from the Polish Tatra Mts, which is conspe-

cific with *H. maior* Strobl, 1910, the only widely distributed species in mountains of central Europe of the otherwise clearly Alpine *Hilara andermattensis* group of species. The second is *Hilara longesetosa* Strobl, 1910, described from the Styrian Alps, which Strobl (1892a) inadequately described already earlier as *Hilara pilosopectinata* from the Austrian locality Gmund. However, Chvála (2008b) already briefly mentioned this synonymy within a revision of the Diptera described by Gabriel Strobl. Finally, the third is *Hilara miriptera* Straka, 1976, described from the Slovenian Julian Alps, which is conspecific with *Hilara tyrolensis* Strobl, 1892.

MATERIAL AND METHODS

The present study is primarily based on several thousand specimens from the Styrian and Swiss Alps. The basic collection was that of Pater (Father) Gabriel Strobl in the Styrian Admont, who built up his large and very important scientific collection of Alpine *Hilara* between 1887 and 1910 (see also Chvála, 2008b). Results of his field studies were first published in the monograph of Austrian *Hilara* species (Strobl, 1892a), followed by further data in the five volume monograph of Strobl "Die Dipteren von Steiermark" where the *Hilara* species were treated in three volumes in 1893, 1898 and 1910 (see references). This region of the Styrian Alps, covering the Ennstaler Alpen including the Gesäuse, and the Rottenmanner and Schladminger Tauern, was later very intensively studied again by the first author (MC), from 1995 until now. The second well studied area is Switzerland. The second author (BM) collected, often together with his collaborators and students, with priority in the Alps (Grisons, Valais, Ticino), but also in the Swiss Midlands around Zürich (1988-1998) and Geneva (from 1999 until now). G. Bächli and J.-P. Haenni have kindly loaned for study further material from Switzerland. Especially interesting were specimens collected by P. Stucki at light traps, and by C. Besuchet at the window of his winter garden, both in the vicinity of Geneva. The second author (BM), and also J.-P. Haenni, A. C. Pont, M. Barták and E. Castella & M. C. D. Speight, collected numerous specimens in the French Alps and the adjacent mountains. J.-P. Haenni and M. Barták helped also with specimens from the Italian Alps. Finally, A. R. Plant put at our disposal many interesting specimens from the Slovenian Julian Alps and the hilly country on the Slovenian-Croatian border. It should be noted that over 90% of the specimens were collected by sweeping with an insect net on vegetation or over the water surface. Only few specimens were obtained with traps (Malaise trap, light trap) or other methods.

The specimens studied are housed in the collections cited below. It should be noted that the entire collection of the first author (MC) is now deposited in the UMO where also the large collection of J. E. Collin is preserved. A major part of the specimens collected by the second author (BM) before 1999, sometimes with his former students (for instance, C. Wolf and P. Rüegg) is deposited in the ETHZ. The specimens collected since 1999, as well as a reference collection of all species, are now stored in the MHNG.

In the following systematic treatment only records from the Alpine region (Austria, France, Italy, Slovenia, Switzerland) are listed under "Material examined" for the common species which occur also elsewhere. Detailed collecting data for these species were published in the revisions and monographs of Chvála (see references).

BSA	Benediktinerstift Admont (coll. G. Strobl) (Austria)
CGB	Private collection G. Bächli, Dietikon (Switzerland)
ETHZ	Eidgenössische Technische Hochschule, Zürich (coll. J. Escher-Kündig, G. Huguenin, B. Merz part, W. Sauter) (Switzerland) (curator: A. Müller)
MHNG	Muséum d'histoire naturelle Genève (coll. B. Merz, part) (Switzerland)
MHNN	Muséum d'histoire naturelle Neuchâtel (coll. J.-P. Haenni) (Switzerland)
NHMB	Naturhistorisches Museum Basel (coll. F. Keiser) (Switzerland) (curators: M. Brancucci, D. Burckhardt, F. Keiser)
NML	Natur Museum, Luzern (coll. L. Rezbanyai-Reser) (Switzerland) (curator: L. Rezbanyai-Reser)
UMO	University Museum Oxford (coll. J. E. Collin, coll. M. Chvála) (U.K.)
ZMB	Zoologisches Museum der Humboldt Universität, Berlin (coll. L. Oldenberg, T. Becker) (Germany) (curators: H. Schumann, J. Ziegler)

For the descriptions and diagnosis we adopt the terminology of morphological structures of Chvála (2005a, 2008a). The following abbreviations are used for setae and legs:

for setae (bristles)	for legs
<i>acr</i> - acrostichals	<i>bt</i> - basitarsus (i.e., first tarsomere)
<i>dc</i> - dorsocentrals	<i>cx</i> - coxa
<i>h</i> - humeral	<i>f</i> - femur
<i>ih</i> - intrahumeral	<i>t</i> - tibia
<i>ntpl</i> - notopleural	<i>1, 2, 3</i> - indicate fore, mid and hind legs
<i>pa</i> - postalar	
<i>ph</i> - posthumeral	
<i>sa</i> - supra-alar	
<i>sc</i> - scutellar	

KEY TO THE ALPINE *HILARA* SPECIES

The key is based on dry-pinned specimens. It should be noted that specimens which were collected in alcohol and dried only later, which are still stored in alcohol, or which are teneral, are often paler (in particular the legs and the haltere) or either smaller (shrivelled for teneral specimens) or larger (full of liquid for alcohol-preserved specimens) and may therefore lead to confusions.

It is recommended to use the following key in conjunction with the illustrations in Collin (1961) and Chvála (2005a, 2008a).

- 1 Small, slender, weakly built species with slender yellowish legs, body with a tendency to be yellowish. *h* (and usually also *ih*) bristle absent or very inconspicuous, but pronotum (unlike *H. maura*-group) always with a distinct bristle on each side. Body and legs devoid of distinct bristles; legs covered with only weak bristly-hairs, simple and slender, male *bt*₁ and female *t*₃ unmodified, slender (group 1, *H. flavipes*-group) 2

- Body and legs with distinct bristles or bristly-hairs (with the exception of the *H. maura*-group, but then pronotum without a distinct bristle on each side, and legs modified); if male bt_1 slender and unmodified, as stout as following tarsomeres (*H. tyrolensis*, *simplicipes*, *perversa*), then legs extensively blackish 5
- 2(1) ♂: eyes touching on frons, upper ommatidia distinctly enlarged; no frontal bristles, and anterior four tibiae with distinct fine bristly-hairs beneath. ♀: haltere yellow 3
- ♂: eyes narrowly separated on frons, all ommatidia equally small, frons about as deep as anterior ocellus. Long frontal bristles present in both sexes 4
- 3(2) Thoracic pleura blackish-grey. Ocellar bristles longer than upper occipitals. ♂: tarsi not very long, bt_1 together with 2nd tarsomere shorter than t_1 , and mid tarsus shorter than t_2 . ♀: frons dull light grey, not distinct frontal bristles 1. *H. flavipes* Meigen
- Thoracic pleura translucent yellowish. Ocellar bristles small, not differentiated from upper occipital bristles. ♂: tarsi very elongated, bt_1 together with 2nd tarsomere longer than t_1 , and mid tarsus clearly longer than t_2 . ♀: frons velvety-black, frontal bristles long . . . 2. *H. flavidipes* Chvála
- 4(2) ♂: abdomen contrastingly snow-white on anterior four to five segments. ♀: haltere darkened, knobs grey to blackish-grey; *h* and *ih* bristles not differentiated 4. *H. albiventris* von Roser
- ♂: abdomen uniformly dark on dorsum, terga brownish-black with narrowly paler membranous hind-margins. ♀: haltere yellow 4a
- 4a(4) Antennae uniformly blackish, segment 2 rarely slightly brownish; *h* and *ih* setae distinct, well visible, even if fine. Legs yellow on femora, more or less brownish on posterior four tibiae and tarsi. ♂: Frons rather wide, about as wide as anterior ocellus, and parallel-sided 3. *H. morenae* Strobl
- Basal antennal segments yellowish-brown; *h* and *ph* setae minute. Legs extensively yellow, only tarsi darkened towards tip. ♂: Frons very narrow above, almost linear, narrower than anterior ocellus, and distinctly widening below towards antennae 3a. *H. sturmi* Wiedemann in Meigen
- 5(1) Body and legs devoid of distinct bristles; *h*, *ih*, and *ph* bristles absent, pronotum (except for *H. media*) without a bristle on each side. A distinct sensory pit below prothoracic spiracle. Legs with f_3 often thickened and abruptly narrowed at tip, black (only partly translucent yellowish in *H. media* and *H. discalis*), bt_1 in ♂ very thickened (except for *H. simplicipes*) (group 13, *H. maura*-group) 6
- Body and legs with distinct bristles or bristly-hairs, the strong marginal bristles on scutum only rarely absent, and pronotum always with one or more distinct bristles on each side. No sensory pit below prothoracic spiracle, and f_3 not clearly thickened (except for *H. coracina* and *H. albitarsis*) 17
- 6(5) f_3 more or less thickened, often abruptly narrowed at tip, and hairs on apical third beneath arising from small warts. The sensory pit below prothoracic spiracle covered with fine hairs 7

- f_3 slender, not dilated, and the hairs beneath towards tip not arising from small black warts (except for *H. diversipes* ♀, but then a large species, 3.5 – 5 mm long) 13
- 7(6) Scutum with 3 dark stripes which, when viewed from in front, coalesce into a broad rusty brown median stripe; when viewed from behind, this stripe becomes velvety black and is sharply separated from the silvery sides. f_3 dilated in both sexes, but not abruptly narrowed at tip; *acr* irregularly 4- to 6-serial, *dc* 2- to 3-serial, all minute. Prothoracic spiracle almost whitish. ♂: lateral genital lamella with a cluster of golden-yellow hairs towards tip (as in *H. diversipes*). ♀: t_3 evenly dilated towards tip. Large, about 4 – 4.5 mm long 104. *H. maura* (Fabricius)
- Scutum rather uniformly shining or subshining black; if finely pollinose and striped, then stripes not coalescent in anterior and posterior views. f_3 abruptly narrowed towards tip; if in doubt (*H. hybrida* ♀ and *H. diversipes* ♀), then *acr* and *dc* less numerous, the former 3- to 4-serial, the latter almost 1-serial, and prothoracic spiracle dark blackish-brown (whitish in *H. maura*) 8
- 8(7) Generally large species, body 3.5 – 5.0 mm long. Scutum finely pollinose, with 3 indistinct dark stripes in anterodorsal view, and microscopically silvery pilose in frontal view. Palpi mostly with pale hairs beneath, only a few longer bristly hairs brownish. *acr* irregularly 4-serial, minute. ♀: t_3 dilated 9
- Generally smaller species, body about 2.5 – 4 mm long. Scutum almost polished black, at least subshining from all points of view, unstriped. Palpi with dark to blackish hairs beneath. f_3 strongly dilated and abruptly narrowed before tip in both sexes. ♀: t_3 slender 10
- 9(8) ♂: lateral genital lamella with a cluster of pale golden-yellow hairs at tip (as in *H. maura*). *dc* almost 1-serial anteriorly. ♀: f_3 rather slender, practically not dilated; t_3 more evenly dilated towards tip; sternum 8 elongate, polished above, dusted below 105. *H. diversipes* Strobl
- ♂: lateral genital lamella with small dark brownish hairs. *dc* narrowly 2-serial anteriorly. Wings clear (brownish in the morphologically similar *H. nitidula*). ♀: f_3 dilated and abruptly narrowed at tip; t_3 slender in basal third, then conspicuously dilated apically; sternum 8 small, largely polished black 106. *H. hybrida* Collin
- 10(8) *acr* irregularly 4-serial, anteriorly often 3-serial, very small and inconspicuous; also ocellar and frontal bristles generally smaller 11
- *acr* irregularly 2-serial, anteriorly often 3-serial, then more distinct and hair-like, although small; if in doubt, and *acr* exceptionally almost 4-serial (*H. femorella*), then strong ocellar and frontal bristles in combination with brown clouded wings 12
- 11(10) *acr* irregularly 3- to 4-serial, *dc* 2-serial at middle, at least 3-serial anteriorly and posteriorly, all very minute. Antennal style about one-half length of 3rd segment, and palpi with one bristly hair in addition to the short hairs, no bristles. Ocellar bristles fine, frontal bristles often not

- differentiated. f_3 below towards tip covered with soft yellowish hairs. ♂: bt_1 large, equal to about $3/4$ length of tibia; dorsal process of lateral lamella flattened, blunt-tipped. Larger, almost 4.0 mm long. Spring species 107. *H. nitidula* Zetterstedt
- *acr* almost regularly 4-serial, *dc* mostly 1-serial, more hair-like. Antennal style longer, almost as long as 3rd segment, and palpi more densely bristled. Ocellar and frontal bristles well developed, bristle-like. f_3 with black bristly hairs ventrally towards tip. ♂: bt_1 smaller, about $2/3$ length of tibia; dorsal process of lateral lamella narrowed and sharply pointed. Generally smaller, about 3 – 3.5 mm long. Summer species 108. *H. nitidorella* Chvála
- 12(10) Abdominal pubescence blackish-brown, wings brownish. Ocellar and frontal bristles strong; *acr* and *dc* hair-like, about as long as 2nd tarsomere of fore tarsi. ♂: bt_1 shorter than tibia; hypandrium small, not produced posteriorly 109. *H. femorella* Zetterstedt
- Abdominal pubescence whitish, wings clear. Ocellar bristles small and fine, shorter than antennal style, and frontal bristles at most half as long, often invisible; *acr* and *dc* minute. ♂: bt_1 conspicuously large, as long as tibia; hypandrium produced posteriorly, very flattened, subhyaline along hind margin 110. *H. sulcitorsis* Strobl
- 13(6) Pronotum without a bristle on each side, covered with uniform minute hairs 14
- Pronotum with a distinct bristle on each side. Wings clear, *acr* 4-serial. ♂: bt_1 stout but short, scarcely of $2/3$ length of tibia. Rather a small species, body about 3 – 3.5 mm long (see also couplet 103) 115. *H. media* Collin
- 14(13) Legs uniformly blackish including “knees”. The sensory pit below prothoracic spiracle without hairs. Radial fork very acute, “oreogetonine-like”; *acr* narrowly 2-serial. ♀: t_3 simple and slender 15
- “Knees” yellowish. The sensory pit below prothoracic spiracle guarded by silvery hairs. Radial fork of the usual shape, not acute, “hilarine-like”. Medium-sized species, body about 2.5 – 3.5 mm long 16
- 15(14) Abdominal pubescence blackish. Wings faintly brownish, veins blackish. ♂: bt_1 very thickened. Larger species, body 3 – 3.5 mm long 111. *H. clypeata* Meigen
- Abdominal pubescence whitish. Wings milky-white, veins whitish. ♂: bt_1 slender, unmodified. Smaller species, body about 2.5 mm long (= *H. miriptera* Straka, syn. n.) 112. *H. tyrolensis* Strobl
- 16(14) Frons subshining, with a small, shining ovate patch above antennae; clypeus largely polished black. *acr* 2-serial, in two widely separated rows, sometimes more numerous in front, *dc* 1-serial. Legs translucent yellowish on cx_1 , and also more or less so on all trochanters and femora. ♀: t_3 slender, unmodified 113. *H. discalis* Chvála
- Frons dull velvety black; clypeus greyish dusted, narrowly polished on upper margin. *acr* almost regularly 4-serial, *dc* irregularly 2-serial. Legs black except for narrowly yellowish “knees”. ♀: t_3 strongly dilated towards tip, slender at base 114. *H. discoidalis* Lundbeck

- 17(5) Legs yellow, at least fore legs partly yellow on coxa and base of femur, or legs almost uniformly brownish-yellow to dark brown 18
- Legs uniformly black, at most "knees" partly yellowish; if the colour varies, the species will be found in both sections (care must be taken with immature specimens with paler legs) 48
- 18(17) Yellow species, ground colour of thorax yellow 19
- Black or greyish species, ground colour of thorax black, at most humeri may be translucent yellowish 20
- 19(18) Large species, body about 4 – 4.5 mm long. Eyes narrowly separated on frons in ♂, occiput blackish-grey. Scutum extensively yellow, with long, hair-like irregularly 2- to 3-serial *acr*, and longer 1-serial *dc*. ♂: *bt*₁ long cylindrical, indistinctly stouter than tibia; ♀: *t*₃ slightly flattened and curved 24. *H. thoracica* Macquart
(Here belongs also *Hilara flavitarsis* Straka, 1976, described from Albania/Macedonia; for details see remarks under *H. thoracica*)
- Small species, body about 3 mm long. Eyes, as usual, broadly separated on frons, occiput light greyish. Scutum finely, almost silvery-grey pollinose, *acr* irregularly 3- to 4-serial, small and numerous, *dc* 1-serial and less numerous, about 10 bristles in one row. ♂: *bt*₁ long oval, stouter than tibia; ♀: *t*₃ slender, and abdomen silvery dusted on dorsum 38. *H. tenella* (Fallén)
- 20(18) Haltere clear yellow (knob darker grey in *H. allogastra*), and occiput dull grey, not blackish from any point of view 21
- Haltere blackish, or at least knob greyish-black; if in doubt (for instance *H. cuneata* ♀ with yellow haltere), species with occiput black from some points of view belong here 28
- 21(20) *acr* 2-serial, *dc*-1-serial, long and bristle-like, less numerous, about 10 in one row and all about as long as antennal style 22
- *acr* irregularly 3- to 4-serial, at least 3-serial at middle; if almost 2-serial (*H. gallica*), then large species about 3.5 – 4.5 mm long 23
- 22(21) Larger species, 3 – 3.5 mm long. ♂: legs with the usual scattered hairing and bristling, hypopygium upturned with an unusually stout, shining black hypandrium. ♀: *t*₃ distinctly thickened and compressed, contrasting blackish including tarsus; all femora and anterior tibiae yellowish. Palpi clear yellow 13. *H. canescens* Zetterstedt
- Smaller species, 2.5 – 3 mm long. ♂: tibiae and basitarsi on anterior two pairs unusually dilated and very densely, long black bristled. ♀: *t*₃ only slightly dilated and curved, not contrasting black; legs extensively darkened on all tibiae and tarsi. Palpi dark brown to blackish 14. *H. nigratarsis* Zetterstedt
- 23(21) Small, about 3 – 3.5 mm long; *acr* and *dc* long and bristle-like, less numerous (about 10 in one row), almost as long as antennal style. Scutum dull brownish-grey except for lighter grey scutellum. Legs extensively yellow, tarsi darkened. Female: *t*₃ only slightly thickened and distinctly curved. Haltere often extensively darkened (see also couplet 35) 18. *H. eviana* Straka

- Large species, about 4 – 5 mm long (except for *H. discolor*); *acr* and *dc* small and numerous. Rather robust, light grey dusted species on occiput and thorax, female t_3 simple (group 2, *H. abdominalis*-group) 24
- 24(22) Frontal bristles absent, not differentiated from other small hairs on frons. Palpi and basal antennal segments vary in colour from dark brown to black. Shorter- and stouter-legged species, especially femora stout, legs very yellow, only tarsi darkened towards tip. Scutum light grey, with only an indication of 2 darker lines between rows of bristles 8. *H. gallica* (Meigen)
- Frontal bristles distinct, often not much shorter than ocellars. Palpi yellowish. Longer-legged species, legs usually more or less darkened on tibiae and tarsi, and more distinctly bristled 25
- 25(24) Scutum with 3 indefinite darker stripes along the lines of *acr* and *dc*. Pronotum with a single, usually light brown bristle on each side, prothoracic episterna with white hairs. Basal antennal segments and legs varying in colour from yellow to dark brown, tarsi always blackish. ♂: bt_1 cylindrical, dark in contrast to yellow tibia, about $2/3$ as long as length of tibia. Generally smaller, about 3.5–4 mm long 9. *H. discolor* Strobl
- Scutum with 2 narrow, more or less distinct darker lines between rows of bristles. Prothoracic episterna with black hairs, and pronotum with several small black spines in addition to the large black bristle on each side. Larger sized species 26
- 26(25) ♂: bt_1 very enlarged, as long as, or longer than t_1 , also 2nd tarsomere on fore tarsi clearly stouter than following tarsomeres. All tibiae with dense, long black pubescence, the hairs longer than tibiae are deep. Legs yellow, with all tarsi and often also tibiae towards tip blackish. Basal antennal segments brownish. Pronotum usually with 4 small spines on each side in addition to the large bristle. ♀: Abdomen brown to yellowish-brown, more or less greyish dusted; bt_1 long and slender, about $2/3$ as long as length of t_1 . Haltere uniformly yellow. Large, about 5 mm long 5. *H. abdominalis* Zetterstedt
- ♂: bt_1 shorter, about $3/4$ as long as length of t_1 ; t_2 almost bare, covered with only minute hairs and a few short black bristles towards tip. Basal antennal segments yellowish 27
- 27(26) Generally smaller, about 4 – 4.5 mm long, haltere clear yellow. Pronotum usually with 4 small black spines on each side in addition to the large bristle. ♂: Fore tarsi with 2nd tarsomere swollen, nearly twice as deep as the following tarsomere. Dorsum of abdomen subshining black in posterior view, otherwise greyish dusted. ♀: bt_1 shorter compared with *H. abdominalis*, about half as long as t_1 7. *H. alpicola* Chvála
- Large species, about 5 – 6 mm long, haltere with knob more or less greyish. Pronotum with 6 to 8 small spines on each side in addition to the large bristle. ♂: 2nd tarsomere on fore tarsi scarcely stouter than following tarsomeres. Dorsum of abdomen silvery-grey dusted in ♂, glittering silvery-white in ♀ (see also couplet 30) 6. *H. allogastra* Chvála

- 28(20) Occiput and frons dull grey, occiput not dull black from any point of view . 29
 - Occiput dull black, at least from some points of view, frons usually blackish. Abdominal pubescence black; if pale (*H. pseudosartrix*) then legs extensively brownish and male genitalia with an unusual, long, slender hypandrium 36
- 29(28) Large species, body about 4 – 6 mm long 30
 - Smaller species, body 3 – 3.5 mm long 31
- 30(29) *acr* minute, closely 2-serial, almost 1-serial anteriorly. ♂: Fore tibia and tarsus with conspicuously long black bristles. ♀: Abdomen dull greyish-black, tergum 2 at sides with a tuft of long light brownish hairs (group 3, *H. clavipes*-group, part) 11. *H. clavipes* (Harris)
 - *acr* 4-serial. ♂: Fore legs with only short pubescence, without distinct bristles except for a cirlet of preapical tibial bristly hairs. ♀: Abdomen silvery-white glittering on dorsum, tergum 2 with short hairs at sides (group 2, *H. abdominalis*-group, part) (see couplet 27) . 6. *H. allogastra* Chvála
- 31(29) *acr* 4-serial 32
 - *acr* 2-serial, long and bristle-like, palpi blackish. ♂: *bt*₁ very dilated, about 2/3 as long as *t*₁, and with long bristly hairs towards tip; a pair of long bristles also at tip of first two tarsomeres. ♀: *t*₃ slender, but slightly curved 16. *H. setosa* Collin
- 32(31) Abdominal pubescence pale, at least at base of abdomen; *acr* and *dc* numerous, fine and small, equally long. Legs extensively darkened. Late summer and autumn species 33
 - Abdominal pubescence black; *acr* long and bristle-like, *dc* even longer . . . 34
- 33(32) ♂: *bt*₁ long and cylindrical, rather slender, clearly shorter and only slightly stouter than *t*₁. Scutum light grey with and indefinite brownish central stripe, abdomen with pale hairs on basal segments only. ♀: very light grey dusted, abdomen silvery-grey, scutum with 2 narrow darker lines between rows of bristles; *t*₃ slightly compressed and curved 32. *H. litorea* (Fallén)
 - ♂: *bt*₁ conspicuously large and swollen, as long as tibia. Abdomen uniformly covered with white hairs, also hind-marginal bristles whitish. ♀: rather greyish species, abdomen not silvery; *t*₃ simple and slender (Alps) (see also couplet 74) 34. *H. sartor* Becker
- 34(32) ♂: *bt*₁ and *t*₁ dorsally with long black bristles, *bt*₁ with 5-7 strong dorsal bristles longer than basitarsus is deep; wings faintly brownish-grey clouded. ♀: *t*₁ and *t*₃ dorsally with black bristles at least as long as tibiae are deep, *t*₃ long and slender, very indistinctly curved at middle. Palpi yellow to brownish-yellow, covered with black bristly hairs, 3 *ntpl* bristles 17. *H. lasiopa* Strobl
 - ♂: *bt*₁ with only short fine hairs, no distinct bristles. ♀: *t*₁ bare except for a small hair-like bristle in basal third above and a preapical bristle. *t*₃ with fine bristles dorsally, slightly compressed and distinctly curved. 1 strong *ntpl* bristle (in addition with 2-3 smaller bristly hairs) 35
- 35(34) Palpi yellowish to light brownish, covered with fine pale hairs; haltere with blackish-grey knob, stalk paler. Abdomen subshining black, almost

- shining brown on dorsum in female. ♂: sternum 8 with a fan of unusual long black bristles posteriorly (as in *H. manicata*) 19. *H. hyposeta* Straka
- Palpi dark grey to greyish-brown, covered with black hairs; haltere almost uniformly brown or yellowish (see also couplet 23). Abdomen greyish dusted, rather light greyish pollinose in female. ♂: sternum 8 with short bristly hairs along hind margin, without distinct bristles 18. *H. eviana* Straka
- 36(28) *acr* irregularly 3- to 4-serial or more 37
- *acr* regularly 2-serial; if almost 3-serial posteriorly (*H. pseudosartrix*), then abdominal pubescence pale 41
- 37(36) Scutum shining black, or at least subshining; *acr* irregularly 3- to 4-serial. *bt*₃ in both sexes (less distinct in ♀) with 2 anterodorsal bristles at tip. Generally smaller species, body about 3 mm long 38
- Scutum dusted, dull grey to blackish-grey, not at all shining; if in doubt (*H. campinosensis*), then frons and face narrowed, legs extensively dark, and generally larger species, body 3 – 4 mm; *acr* 4-serial or more 39
- 38(37) Legs extensively yellow with dark tarsi; haltere with yellow stem and blackish knob; palpi yellowish-brown. Wings slightly smoky in male, almost clear in female; *acr* short and fine, diverging. ♂: *t*₁ dorsally with fine hairs, *bt*₁ slender, half as long as length of tibia, and only slightly wider; genitalia with an unusually long, slender hypandrium bowed above lamellae (like in *H. pseudosartrix*). ♀: *t*₃ simple and slender. Larger species, body 2.5 – 3 mm long 36. *H. morata* Collin
- Legs extensively blackish, at most *cx*₁, base of all femora and all “knees” yellowish; haltere entirely black; palpi blackish. Wings strongly darkened in both sexes; *acr* very long, bristle-like, and widely spaced. ♂: *t*₁ long bristled before tip, *bt*₁ short ovate, blunt-tipped, not much longer than half-length of tibia. ♀: *t*₃ slightly compressed and bent. Smaller species, body up to 2.5 mm long (see also couplet 102) 23. *H. merula* Collin
- 39(37) Large species, body 4 – 5.5 mm long, abdomen often yellowish at base. Palpi yellow, *acr* 4- to 6-serial. ♂: *bt*₁ only slightly thickened, not much stouter than tibia at tip; ♀: *t*₃ simple and slender 68. *H. lurida* (Fallén)
- Smaller species, body 2.5 – 4 mm long, abdomen uniformly blackish. *acr* almost regularly 4-serial; ♂ *bt*₁ clearly thickened, stouter than tibia at tip 40
- 40(39) Generally smaller, body about 2.5 – 3 mm long. Palpi yellowish at tip, wings brownish. Legs extensively blackish, only *cx*₁ and base of *f*₁ yellowish, *bt*₃ in both sexes with several distinct anteroventral bristles much longer than tarsomere is deep. Frons deep black above antennae, and contrasting with light grey face, very narrow, as wide as anterior ocellus. ♂: *bt*₁ short ovate, half as long as tibia. ♀: *t*₃ slender but distinctly curved (see also couplets 94, 102) 37. *H. splendida* Straka
- Larger species, body about 3 – 4 mm long. Palpi blackish, wings very faintly brownish infuscated. Legs varying in colour from almost

- uniformly blackish to extensively yellowish on fore coxae, base of femora, and "knees"; bt_3 covered with short hairs. Frons black, widening into a triangle above, with a shining patch above antennae, face as wide as 2nd antennal segment is deep. ♂: bt_1 not much stouter than tibia and about two-thirds as long. ♀: t_3 unmodified, slender as in male (see also couplet 105) 63. *H. campinosensis* Niesiolowski
- 41(36) Large species, body about 4 – 5.5 mm long. ♂: fore tibia and tarsus ciliated dorsally with long black bristles; ♀: abdomen with a tuft of long brownish bristly hairs on each side of tergum 8 (group 3, *H. clavipes*-group, part) 42
- Smaller species, body at most 3.5 mm long. ♂: fore leg with short bristling; ♀: abdomen without a tuft of long hairs at sides of tergum 8 43
- 42(41) Prothoracic spiracle pale, yellowish-brown. Legs extensively yellowish to brownish-yellow; haltere yellowish, with knob at most brownish, and wings almost clear. ♂: t_1 and bt_1 long bristled dorsally, following tarsomeres with short hairs only 10. *H. cilipes* Meigen
- Prothoracic spiracle blackish. Legs extensively blackish, except for yellowish cx_1 and base of f_1 ; knob of haltere dark brown to blackish ♂: in addition to t_1 and bt_1 , also following 2 tarsomeres on fore leg long black bristled 12. *H. curtisi* Collin
- 43(41) Palpi black; scutum subshining black, thoracic pleura dull grey, wings deep brown clouded. Legs extensively blackish, only cx_1 and base of f_1 yellowish. Small species of the *H. chorica*-group with short tarsi. ♂: bt_1 very thickened, short ovate; ♀: t_3 rather slender and distinctly curved. Small, body about 2.5 – 3 mm long (see also couplet 136) 98. *H. aartseni* Chvála
(To this couplet comes also *Hilara flavocoxa* Straka, a species known so far only from highlands of central Slovakia. A small-sized species of the *H. canescens*-group, body about 2 – 3 mm long, closely allied to *H. merula*. It differs by long, bristle-like 2-serial *acr* (short in *H. aartseni*), and by the unusually enlarged male bt_1 , which is about as long as corresponding tibia (much shorter in *H. aartseni*, at most 1.5 times as long as wide); bt_3 in both sexes with 2 distinct anterodorsal setae before tip. For redescription with illustration see "Additional species".)
- Palpi yellowish (brownish in *H. cuneata* and *H. cinereonicans*), dorsum of thorax dulled by greyish dust, not shining. Fore tarsi fairly long, tarsomeres 2-4 clearly longer than deep 44
- 44(43) Abdominal pubescence and hairs on cx_1 pale. Small, body about 2.5 – 3.3 mm long, light grey dusted species, scutum with velvety brown patches posteriorly in ♂, and with 2 darker narrow lines between rows of bristles in ♀. Legs extensively dark, rather uniformly dark brown to brownish-yellow, very slender: *acr* with a tendency to be 3- to 4-serial posteriorly. ♂: bt_1 very large and stout, almost as long as tibia; genitalia with an unusual long, slender hypandrium bowed above lateral lamellae (as in *H. morata*). ♀: legs extensively blackish, t_3 simple and slender (see also couplets 89, 125) 33. *H. pseudosartrix* Strobl

- Abdominal pubescence and hairs on cx_1 black; *acr* regularly 2-serial, long and bristle-like, male bt_1 clearly shorter than tibia (except for *H. cuneata*) 45
- 45(44) Legs extensively blackish, often only cx_1 and base of f_1 yellowish. Scutum dark grey, slightly dark brownish pollinose, subshining, pleura lighter grey; *acr* in two close rows. ♂: bt_2 with a distinct thickening at base beneath. ♀: t_3 slightly compressed, as deep as femur 46
- Legs yellow on coxae and femora, but tibiae and tarsi more or less darkened. Thorax uniformly finely dark grey dusted on scutum. ♂: bt_2 simple, without the basal swelling 47
- 46(45) *acr* distinctly diverging; antennal style slightly longer than 3rd segment. ♂: sternum 8 with unusual long bristles posteriorly forming a fan of black bristles on each side of genitalia and overlapping the lamellae posteriorly (as in *H. hyposeta*). ♀: wings clear; t_3 slightly curved at middle 20. *H. manicata* Meigen
- *acr* only slightly diverging; antennal style very long, 1.5 times as long as 3rd segment. ♂ sternum 8 with short bristles, not forming a fan of bristles at sides of hypopygium. ♀: wings brownish; t_3 slightly laterally compressed, almost straight 21. *H. ponti* Chvála
- 47(45) *acr* narrowly biserial and very conspicuously diverging. ♂: Frons above antennae and face very narrowed, not as deep as 2nd antennal segment. Tibiae and basitarsi on anterior two pairs very densely, long black pubescent dorsally; bt_1 not much shorter than t_1 and almost equally deep. ♀: t_3 long and slender (and haltere whitish) 15. *H. cuneata* Loew
- *acr* in 2 widely separated rows, not clearly diverging. ♂: Frons and face of usual width, and anterior four tibiae and basitarsi with usual short bristling. Thorax uniformly finely dark grey dusted on scutum and pleura, the latter somewhat translucent brownish, and humeri (post-pronotum) yellowish. Genitalia large, especially hypandrium laterally flattened, keel-like (as in more northern distributed *H. apta* Collin). ♀ unknown 22. *H. cinereomicans* Strobl
- 48(17) Haltere pale, clear yellow, or at least uniformly yellowish-brown; if in doubt (for instance in *H. platyura*), the species will be found in both sections 49
- Haltere black, at least knob blackish-grey, the stem may be paler 72
- 49(48) Scutum unstriped, uniformly coloured, or longitudinal stripes very indistinct (if in doubts, e. g., *H. lacteipennis*), species with milky-white wings, and dark median stripe, belong here) 50
- Scutum with 2 to 4 distinct dark stripes on the grey background, or scutum velvety black in some lights, with stripes that change from different points of view (group 6, *H. intermedia*-group, part) 60
- 50(49) *acr* 4-serial 51
- *acr* 2-serial 54

- 51(50) Frons and occiput dull grey, occiput not black from any point of view. Smaller species, body about 2.5 – 3.5 mm long, scutum uniformly light grey dusted 52
- Occiput dull black, at least in some lights; large species, body 4 – 6 mm long (if wings milky-white, and a smaller species, 2.5 – 3.5 mm long, see section 55) 53
- 52(51) Larger species, body 3 – 3.5 mm long, haltere brownish. Palpi brownish-yellow; wings very clear with indistinct veins, stigma invisible, radial fork acute. Scutum light grey dusted, unstriped. Abdomen rather subshining blackish-brown, covered with dense dark pubescence, and long, thin black hind-marginal bristles. ♂: bt_1 long ovate, not much stouter than tibia, clearly longer than rest of tarsus, and tarsomeres 2-4 long, twice as long as deep; genitalia unusually large, hypandrium very convex; ♀: t_3 slightly dilated and indistinctly curved 39. *H. platyura* Loew
- Small species, body about 2.5 mm long, haltere clear yellow. Palpi black, greyish dusted; wings clear with distinct blackish veins, stigma faintly brownish, and radial fork of usual "hilarine" shape. Scutum slate-grey dusted, with 2 indistinct darker lines between small, numerous widely spaced *acr* and *dc* bristles. Abdominal pubescence rather long and fine, pale, hind-marginal bristles not differentiated. ♂: bt_1 stout and not much shorter than tibia, clearly longer than rest of tarsus, and tarsomeres 2-4 only slightly longer than deep; genitalia, especially hypandrium, small. ♀: t_3 slender and unmodified 40. *H. leukensis* sp. n.
- 53(51) Larger species, body 5 – 6 mm long. Frons dull black, narrow in ♂, as deep as 2nd antennal segment, face greyish. Scutum dark grey, with a broad, darker brownish median stripe on the widely spaced 4- to 6-serial *acr*; *dc* 1-serial. Palpi brownish at tip, frontal bristles reduced. ♂: bt_1 long cylindrical, longer than rest of tarsus; ♀: t_3 simple and slender (in the morphologically similar *H. aeronetha dc* more than 1-serial, and haltere blackish, see couplet 90) 79. *H. angustifrons* Strobl
- Smaller, body about 4 – 5 mm long. Frons and face grey, of usual width in both sexes. Lighter grey dusted species with whitish pubescence, *dc* 2- to 3-serial, and legs silvery pilose. Haltere often darkened (*H. borealis*-group, part) (see also couplet 85) 93. *H. pruinosa* Wiedemann in Meigen
- 54(50) Wings milky-white, veins whitish, indistinct. Scutum light grey to silvery-grey with 2 indistinct narrow darker lines between rows of bristles, *acr* and *dc* very small, hair-like. Very light grey dusted species, abdominal pubescence whitish 55
- Wings clear or clouded, veins always more or less darkened and distinct. Small to medium-sized species, body about 2.5 – 3.5 mm long 57
- 55(54) Vein Sc incomplete, not reaching costa. Scutum silvery-grey, *acr* 2-serial anteriorly, more numerous behind. Legs blackish, with "knees" and bt_3 pale, all femora whitish pilose beneath, f_3 slightly thickened and with dark ventral bristly hairs. Palpi dark greyish, body 2.5 – 3.5 mm long. (see also couplets 57, 86, 124) 116. *H. albitarsis* von Roser ♀

- Wings whitish with vein Sc complete, reaching costa. Combination of characters different. f_3 not thickened and spined below, *acr* regularly 2-serial 56
- 56(55) Scutum light bluish-grey dusted, with 2 indistinct narrow darker lines between rows of bristles. Legs quite slender, more uniformly brownish, "knees" narrowly paler; femora not silvery pilose beneath. Palpi yellowish. ♀: t_3 simple and slender (body 2 – 2.5 mm) (*H. litorea*-group) 43. *H. albipennis* von Roser
- Scutum very light grey dusted, *acr* 2-serial, on a broad brown median stripe; *dc* 1-serial, on very narrow dark lines. Haltere extensively darkened, palpi greyish-brown. ♀ t_3 evenly thickened and curved (body 2.7 – 4 mm) (♂ unknown, *H. borealis*-group) 92. *H. lacteipennis* Strobl ♀
- 57(54) Occiput dull black in some lights, frons and vertex light grey. Vein Sc incomplete. All femora silvery pilose beneath, f_3 distinctly thickened and with long, black, spine-like bristles beneath, hind tarsi often pale. Scutum light grey dusted, with 3 indefinite blackish stripes visible in some lights; *acr* 2-serial anteriorly, often 3- to 4-serial posteriorly. Abdominal pubescence whitish (see also couplets 55, 86, 124) 116. *H. albitarsis* von Roser ♂
- Frons and occiput dull grey, occiput not dull black from any point of view. Vein Sc complete, reaching costa. Legs blackish, all femora and tibiae long and slender, almost bare, and femora not silvery pilose beneath. Scutum dark grey dusted, more brownish-grey in anterior view; 2-serial *acr* widely spaced, *dc* 1-serial, all bristle-like and few in number, about 8 to 9 setae in one row, and all as long as antennal style. Uniformly rather light grey dusted species (*H. griseola*-complex) 58
- 58(57) Abdominal pubescence, and hairs on lower part of occiput black. Scutum with 2 very narrow, fine, darker blackish-grey lines between *acr* and *dc*. Wings clear. ♀: t_3 slightly dilated and curved 59
- Abdominal pubescence and hairs on lower part of occiput whitish. Scutum in anterodorsal view with a faint, indistinct, darker grey median stripe on *acr*. Wings brownish clouded. ♀: t_3 simple and slender, unmodified 29. *H. crossleyi* sp. n.
- 59(58) Palpi black; legs uniformly black in ground colour, finely greyish pollinose. Rather a medium-sized species, body length varies from 2.5 to 3.5 mm 27. *H. griseola* Zetterstedt
- Palpi yellow; legs black in ground colour, but cx_1 towards tip and all femora at least at base translucent brownish. Generally smaller species, body about 2.5 – 2.9 mm long 28. *H. planti* sp. n.
- 60(49) Occiput dull velvety black, at most with a contrasting whitish-grey triangle behind ocelli (*H. fuscipes*) 61
- Occiput dull grey, at most with an indefinite darker blackish-grey shadow above neck; if in doubt, (i.e. *H. luteihalterata*, a small species with short stout antennal style) the species is in both sections. Abdominal pubescence always pale, at least on basal segments 67

- 61(60) Occiput with a contrasting whitish-grey triangle behind ocelli. Body varying in length from 3 to 5 mm, f_1 with 1 or 2 small dark bristles anteriorly at middle. ♂: hypandrium narrowed posteriorly, well separated from lateral lamellae; ♀: t_3 evenly thickened and slightly curved 49. *H. fuscipes* (Fabricius)
- Vertex and occiput without the contrasting light grey triangular patch above 62
- 62(61) *acr* 4-serial, abdominal pubescence light brownish. Scutum brownish-grey in anterior view, light grey between 2 narrow blackish median stripes, broad lateral stripes visible in dorsal view; all stripes coalescent at sides when viewed from above and behind, leaving a light grey central stripe, sides of scutum then broadly black. ♂: legs covered with only short fine hairs and bristles, bt_1 not much stouter than tibia; ♀: t_3 rather slender but strongly curved. Species varying in length from 2.5 to 5.5 mm 48. *H. beckeri* Strobl
- *acr* 2-serial, and scutum with a different black pattern. Legs in ♂, including tibiae, covered with long bristly hairs (except for *H. embartaki*), and bt_1 very thickened 63
- 63(62) Abdominal pubescence whitish, at least on basal three segments 64
- Abdominal pubescence as well as all hairs and setae on legs black 66
- 64(63) Legs covered mostly with whitish hairs and setae; anterior four tibiae densely long pubescent posteriorly. Antennae with a short, stout style which is half as long as segment 3. Scutum with distinct black stripes, the 2 median stripes between lines of *acr* and *dc* coalescent in posterior view, forming a single central stripe lying on *acr*. Early spring species; smaller, body about 2.3 – 3 mm long (see also couplet 68) 54. *H. luteihalterata* sp. n.
- Legs covered with black hairs and setae. Antennal style longer and slender, about two-thirds length of segment 3. Scutum with 2 or 4 distinct black stripes clearly visible as well when viewed from behind. Generally larger species, body about 2.8 – 3.3 mm long 65
- 65(64) Scutum with 2 distinct black stripes between *acr* and *dc*; about 16 *acr* setae in one row. ♂: anterior four tibiae with only short sparse pubescence posteriorly; t_1 dorsally with 3 to 4 long, fine single bristles. Apical circular process on lateral genital lamella spinose along margin only. Wings short, 2.9 – 3.3 mm long. A summer species in mountains (French Massif Central) 55. *H. embartaki* Chvála
- Scutum with 4 distinct black stripes, the lateral 2 shorter and wider when viewed from behind; *acr* less numerous, about 10 setae in one row. ♂: anterior four tibiae with a dense pubescence posteriorly at least as long as tibiae are deep; t_1 dorsally with about 6 pairs of long bristles. Apical circular process of left lamella distinctly spinose also ventrally. Wings larger, 4.2 – 4.5 mm long. Early spring species (Bulgarian Rhodope Mts) 56. *H. polleti* sp. n.

- 66(63) A medium-sized species, body about 3–4 mm long. Thoracic stripes not well visible, scutum light brownish-grey in anterior view, almost uniformly velvety black from other angles, with a trace of golden-brown stripes between lines of bristles, leaving central stripe on narrowly 2-serial *acr* bristles black. Labrum short, half as long as head is high. ♂: anterior four femora and tibiae dorsally with very long woolly pubescence, no distinct bristles; bt_1 strongly swollen, also t_2 and bt_2 thickened. Genitalia with hypandrium not narrowed or produced distally. ♀: tibiae short pubescent, no distinct bristles, t_3 slightly compressed and curved, narrower than femur 52. *H. pilipes* Zetterstedt
- Small species, body about 2–2.8 mm long. The four subshining black stripes on scutum almost invisible when viewed from in front, in posterior view scutum extensively blackish. Labrum long, as long as head is high. ♂: all tibiae rather long pubescent, also t_3 dorsally, t_1 with 4 distinct dorsal bristles, and t_2 and bt_2 slender. Genitalia with a long, slender curved hypandrium. ♀: t_3 simple and slender . . . 53. *H. tanychira* Strobl
- 67(60) Dark stripes on scutum almost invisible in anterior view, when viewed from above with 4 distinct blackish stripes, the 2 median stripes between *acr* and *dc* turning to golden-yellow in posterior view and *acr* then lying on a velvety black middle stripe. Scutum chestnut-brown in dorsal view, with margins, prescutellar depression and scutellum contrasting light grey; *acr* almost uniformly 2-serial. ♂: lateral genital lamella with a long pointed apical projection; ♀: t_3 slender and simple. Later summer and autumn species 46. *H. hirta* Strobl
- Scutum uniformly light grey to brownish-grey dusted, with 4 dark stripes clearly visible from all points of view. ♀: t_3 more or less compressed and curved. Spring and rather early summer species 68
- 68(67) *acr* regularly 4-serial, at least at middle, almost 2-serial only in *H. quadrifasciata*. Large species, generally about 3–5 mm long 69
- *acr* regularly 2-serial. Small species, body about 2.3–3 mm long, with anterior four tibiae in ♂ densely long pubescent (t_1 posteriorly, like f_1); antennal style short and stout, frons mostly black, and occiput nearly dull grey when viewed from behind (see also couplet 64)
- 54. *H. luteihalterata* sp. n.
- 69(68) Uniformly light grey to almost whitish-grey dusted species, the bristle on each side of pronotum pale, rarely darkened; cx_2 and cx_3 with uniformly yellowish hairs and bristles. Frons entirely whitish-grey dusted, not darkened along ocular margins. Ocellar and frontal bristles very fine, much thinner than postvertical (upper postocular) bristles, and usually as long as antennal style, although they vary in length in some extent. Abdominal terga 1-4 with whitish hairs, without dark hind-marginal bristles 70
- Darker grey dusted species, scutum more or less darker or brownish-grey pollinose, the bristle on each side of pronotum black; cx_2 and cx_3 with additional blackish bristles. Frons grey, ocular margins with a

- velvety brown line touching above hind ocelli. Ocellar and frontal bristles as thick as those in upper postocular row, and much longer than antennal style. Abdominal terga 1-4 with dark hind-marginal bristles, only fine in female 71
- 70(69) Labrum short, about half as long as head is high. Thoracic stripes blackish, the 2 central stripes between *acr* and *dc* narrow and sharply contrasting with the bluish-grey scutum. t_1 and t_3 dorsally with several dark bristly hairs clearly longer than the other pubescence; f_2 with a row of long dark anterior bristles. Occiput rather uniformly light grey dusted. ♂: t_2 densely long pubescent anteriorly, the hairs at least as long as tibia is deep; lateral genital lamella with a very narrow, simple, slender, apical projection; ♀: t_3 compressed and very curved 44. *H. intermedia* (Fallén)
- Labrum long, as long as head is high. Thoracic stripes broader, brownish and less contrasting; when viewed from in front the distance between the 2 central stripes as wide as the width of one stripe. Legs covered with uniform short pale pubescence, no distinct bristles, except for 1 or 2 short preapical bristles on tibiae, and f_2 anteriorly with only short pale bristly hairs. Occiput when viewed from above with two large brownish patches above neck, leaving only a triangular light grey patch behind vertex. ♂: t_2 covered with only short hairs, lateral genital lamella with an ovate, spinose, apical projection; ♀: t_3 compressed, but only slightly bent, almost straight 45. *H. tetragramma* Loew
- 71(69) Scutum clearly grey dusted, *acr* irregularly 4-serial; cx_1 with fine yellowish-brown hairs at tip. Occiput very grey, with two darker, well separated patches above neck. ♂: t_2 with a few short black spine-like anteroventral bristles in apical third, otherwise short pubescent; bt_2 slender, as deep as following tarsomeres, and less than half length of tibia; t_3 dorsally with about 4 bristles slightly longer than tibia is deep. ♀: t_3 distinctly dilated, almost as deep as femur at middle, dorsally with 5-6 bristles longer than other pubescence 50. *H. quadrula* Chvála
- Scutum more brownish in colour, especially between the dark central stripes, *acr* with a tendency to be 2-serial; cx_1 with stouter blackish bristles at tip. Occiput more uniformly darker grey dusted. ♂: t_2 in addition to the anteroventral spine-like bristles with long bristly hairs anteriorly and posteriorly along the whole length, those in posterior row more numerous, longer and finer; bt_2 stouter and longer, at least half length of tibia; t_3 with about 8 bristles dorsally clearly longer than tibia is deep. ♀: t_3 less compressed, clearly narrower than femur, and dorsally with a row of less differentiated, almost equally long hairs and bristles 51. *H. quadrifasciata* Chvála
- 72(48) Occiput dull grey from all points of view, not at all black, also frons and vertex dull grey. Wings clear, abdominal pubescence black (brownish in *H. nigrocincta*) 73
- Occiput dull black, at least when viewed from above, usually frons and vertex also mostly black 78

- 73(72) *acr* 2-serial (at least anteriorly in *H. sartor*) 74
 - *acr* 4-serial; abdominal pubescence always black 75
- 74(73) *acr* fairly long, bristle-like, and less numerous. Small species, body 2 – 2.5 mm long, scutum uniformly dull bluish-grey dusted with a brownish pattern, unstriped, abdomen and male genitalia subshining brownish. Abdominal pubescence black. ♂: t_1 short and thick, bt_1 unusually large and swollen, clearly longer than tibia; ♀: t_3 slightly dilated (species of the *H. canescens*-group) 30. *H. tieffii* Strobl
- *acr* small and numerous, more than 10 setae in one row, and posteriorly often 3-serial. Larger, body 2.5 – 3.5 mm long, thorax and abdomen uniformly nearly light grey dusted. Abdominal pubescence whitish. ♂: bt_1 very long and swollen, as long as the very slender t_1 ; ♀: t_3 simple and slender (species of the *H. litorea*-group) (see also couplet 33) 34. *H. sartor* Becker
- 75(73) Large, body about 4 – 4.5 mm long, Scutum dull, dark bluish-grey dusted and densely black bristled, with 3 broad reddish-brown stripes, 6-8 *sc* bristles; abdomen dull light grey. Antennal style short, half as long as 3rd segment. ♂: bt_1 long ovate, but not much stouter than tibia; f_3 with about 4 strong black anteroventral bristles before tip, t_3 with 3-4 dorsal bristles longer than tibia is deep, and with 3 strong spine-like bristles anteroventrally. ♀: t_3 simple, slender, and the dark stripes on scutum more greyish-black (species of the *H. interstincta*-group) 80. *H. caerulescens* Oldenberg
- Smaller species, body at most 3.5 mm long, combination of characters different 76
- 76(75) Smaller, body about 2.5 mm long. Scutum uniformly brownish-grey dusted, sides narrowly and scutellum contrasting grey. ♂: bt_1 rather short and stout, about 2/3 as long as length of tibia, the latter short pubescent, dorsally with 3-4 short fine bristles; t_3 with small hairs, except for 3-4 dorsal bristles which are about as long as tibia is deep, and similar smaller anteroventral bristles. ♀: t_3 evenly dilated and compressed, slightly curved (syn. *H. griseifrons* Collin) 42. *H. ternovensis* Strobl
- Generally larger species, about 3 – 3.5 mm long (rarely 2.6 mm), with a different combination of characters. ♂: bt_1 longer and rather cylindrical, about 3 times as long as deep 77
- 77(76) Slender, long-legged species, cx_1 and femora at base often translucent yellowish; vein *Sc* usually abbreviated. Scutum brownish-grey, with a darker, almost blackish median stripe. ♂: t_1 with a pair of long preapical setae and a few dorsal setae; t_3 with 3-4 black dorsal and anteroventral setae at least as long as tibia is deep, other hairs minute. Terga uniformly blackish. Lateral genital lamella deeply cleft, upper process long, finger-like. ♀: t_3 simple and slender (August – October) (species of the *H. cornicula*-group) 65. *H. nigrohirta* Collin
- Rather robust, stouter-legged species, legs uniformly black; vein *Sc* complete. Scutum uniformly slate-grey, with widely spread *acr* on a

- broad lighter grey median stripe, separated by narrow darker grey lines from *dc*, sides somewhat brownish-grey; prescutellar depression and scutellum almost silvery-grey. Palpi brownish at tip, abdominal pubescence brownish, somewhat paler; abdomen when viewed from behind with contrasting black hind tergal margins. ♂: t_1 with numerous bristly hairs dorsally; t_3 anteriorly and anteroventrally with dense, rather adpressed long bristly hairs much longer than tibia is deep. ♀: t_3 slender at base, strongly dilated and curved on apical two-third (May – July) (species of the *H. litorea*-group) 41. *H. nigrocincta* de Meijere
- 78(72) *acr* 4-serial or more; if irregularly 2- to 3-serial, then large species about 5-7 mm long (*H. lugubris*), or abdominal pubescence pale (*H. pseudo-sartrix*, *H. longicornis*) 79
- *acr* regularly 2-serial; if more than 2-serial (*H. biseta* of the *H. choric*-group), then small species about 2 mm long, with short tarsi and subshining scutum 106
- 79(78) Wings milky-white, with indistinct pale venation. Scutum and abdomen bluish-grey; *acr* small, hair-like and numerous, black; abdominal pubescence blackish. Frontal bristles absent, palpi blackish to yellowish-brown. ♂: bt_1 long cylindrical, short pubescent and longer than rest of tarsus; lateral genital lamella with an unusually long, slender, pointed terminal process. ♀: t_3 simple and slender 35. *H. galactoptera* Strobl
- Wings more or less clouded, or clear, but then with distinct blackish venation; wings not at all whitish 80
- 80(79) Scutum dull grey to greyish-black or greyish-brown, not at all subshining, often with more or less distinct darker stripes, or velvety black in some lights 81
- Scutum more or less shining black, or subshining blackish-grey, not dull; if thinly greyish or brownish dusted in anterior view (*H. anglodanica*, *H. pseudocornicula*), the species will be found in both sections 97
- 81(80) f_2 spinose beneath, with a double row of spine-like bristles towards tip. Large, strongly black bristled species about 5-7 mm long of the *H. interstincta*-group 82
- f_2 without black ventral spine-like bristles, at most anteroventrally with fine, bristly hairs 83
- 82(81) Smaller, body about 5 mm long, wings faintly greyish-brown infuscated, almost clear in ♂. Scutum darker grey dusted, the 3 stripes rather brownish and less distinct, abdomen subshining greyish-black. Antennal style shorter, 3/4 length of 3rd segment. Labrum slightly shorter than head is high. Legs extensively blackish including "knees". ♂: f_3 pubescent beneath, with 2-3 anteroventral preapical bristles only; ♀: t_3 slightly compressed and bent 72. *H. interstincta* (Fallén)
- Larger species, body 6-7 mm long, wings strongly darkened. Scutum with blackish stripes on a grey ground-colour, abdomen dull black. Antennal style long, as long as. or longer than 3rd segment. Labrum at least as long as head is high. Legs black, "knees" yellowish. ♂: f_3

- strongly black bristled beneath; ♀: t_3 slender and simple 73. *H. lugubris* (Zetterstedt)
- 83(81) Femora more or less microscopically silvery pilose beneath 84
- No silver pile or whitish microscopic pubescence on femora beneath; if in doubt, the species will be found in both sections 89
- 84(83) Coxae with pale hairs, and abdominal pubescence mostly pale, at least at base of abdomen 85
- Coxae with black hairs, abdominal pubescence black. Scutum dull bronze brown with 3 black stripes visible from in front, but in posterior view scutum uniformly velvety black. Legs, palpus and haltere quite black. Frontal bristles indistinct or absent; antennal style short, often only of half-length of 3rd segment. ♂: bt_1 short cylindrical, scarcely wider than tibia at tip, f_3 spindle-shaped and strongly black bristled beneath; ♀: t_3 simple and slender. Medium-sized species, body about 3–4 mm long 60. *H. coracina* Oldenberg
- 85(84) Larger, about 4–5 mm long, densely light silvery-grey dusted species. Scutum light grey in frontal view; when viewed from above with a narrow darker median line, and sides broadly blackish; *acr* narrowly 4-serial, very small and diverging, *dc* 2- to 3-serial. Antennal style short, half as long as 3rd segment. Frons and face light grey, humeral and frontal bristles absent, palpi greyish-black. Fore tibia and tarsus densely, almost golden-yellow to silvery microscopically pubescent; wings brownish clouded. ♀: t_3 simple and slender (see also couplet 53) 93. *H. pruinosa* Wiedemann in Meigen
- Smaller, generally about 3 mm long (2.5–4 mm), darker grey species (except for *H. albitarsis* ♀), with *acr* not diverging and *dc* 1-serial. Antennal style longer, at least 2/3 length of 3rd segment; if shorter (*H. albitarsis*), then wings clear and vein Sc abbreviated 86
- 86(85) Wings clear with vein Sc abbreviated, *acr* with a tendency to be 2-serial, minute. Haltere sometimes yellowish and occiput often greyish, very variable species in many respects. ♂: bt_1 short elliptical, slender, scarcely wider than tibia at tip; f_3 spindle-shaped, thickened, with long black spine-like bristles beneath. Legs with broadly yellow “knees” and base of tarsi (see also couplets 55, 57, 124). ♀: thorax and abdomen very light grey dusted, legs simple and darker 116. *H. albitarsis* von Roser
- Wings with vein Sc complete, reaching costa (sometimes abbreviated in *H. bohémica*, but then wings brownish). ♂: f_3 not dilated; if slightly thickened (*H. bohémica*), then ventral bristles very short. ♀: body dark, dull brown or subshining black; if abdomen light grey (*H. bohémica*), then scutum with contrasting brown stripes. If f_3 dilated and black bristled ventrally (*H. coracina*), then all hairs and bristles black, and scutum velvety black when viewed from behind 87
- 87(86) *acr* narrowly 2- to 3-serial. Scutum silvery-grey pollinose in anterior view, with narrow reddish-brown stripes on lines of bristles, but when viewed from above subshining black; *h* bristle small and fine, or absent.

- Frons dull black in some lights. Antennal style about 2/3 length of 3rd segment; wings faintly brownish. ♂: f_3 distinctly spindle-shaped, ventrally with short black bristles (much shorter than in *H. albitarsis* and finer than in *H. coracina*); bt_1 only slightly swollen, scarcely wider than tibia at tip; abdomen almost shining black. ♀: dorsum of abdomen subshining black, but silvery dusted in some lights; t_3 simple and slender (see also couplet 124) 117. *H. bohémica* Straka
- *acr* widely 4-serial, at least anteriorly. Wings very clear, iridescent, veins blackish. ♂: f_3 not dilated and armed with only fine bristly hairs beneath, bt_1 distinctly swollen, much wider than tibia towards tip 88
- 88(87) Scutum brownish dusted in anterior view, when viewed from above broadly very light bluish-grey at middle (with a narrow median line), in prescutellar depression, and on scutellum. Antennal style long, as long as 3rd segment; frons and face light grey. A distinct, although fine *h* bristle. Abdomen dull black when viewed from above in male, dull brownish in female. ♀: t_3 simple, but fairly stout . 90. *H. medeteriformis* Collin
- Scutum light grey in all lights, with a brown or reddish-brown median stripe (mainly males), or with 3 stripes on lines of bristles (often females). Antennal style shorter, nearly half as long as 3rd segment; frons velvety blackish-brown, face light grey. Both *h* and *ih* bristles minute, practically absent. Wings with a tendency to be whitish. ♀: t_3 simple and very slender 91. *H. calinota* Collin
- 89(83) cx_1 with pale hairs. Palpi yellow. Small species about 2.5 - 3 mm long, rather light grey dusted on thorax and abdomen, *acr* irregular, almost 2-serial anteriorly. Frontal bristles, and *h* bristle fine, small. Scutum dull light grey, in frontal view with 2 indistinct darker lines between *acr* and *dc*, in dorsal view postalar calli and sides of scutellum broadly deep velvety brown or almost dull black. Legs often uniformly brownish (see also couplets 44, 125) 33. *H. pseudosartrix* Strobl
- cx_1 with black bristly hairs, palpi blackish; and with a different combination of characters 90
- 90(89) Large species, about 6 mm long; *acr* irregularly 6-serial, *dc* irregularly 1- to 2-serial. Frontal bristles very small, fine. Antennal style nearly as long as 3rd segment, frons and face in ♂ narrowed (the similar species *H. angustifrons* has yellow haltere and *dc* 1-serial, see couplet 53) 78. *H. aeronetha* Mik
- Generally smaller species, body at most 5 mm long; *acr* irregularly 4-serial, *dc* 1-serial. Frontal bristles strong, about as long as ocellar bristles (finer and smaller in *H. splendida*, absent in *H. coracina*) 91
- 91(90) Labrum long, as long as head is high. Wings clear, at most greyish hyaline . 92
- Labrum short, clearly shorter than head is high 93
- 92(91) Smaller species, about 2.5 - 3.5 mm long, finely bristled, thorax unstriped. Scutum brownish-black dusted, though subshining in some lights. Legs with a tendency to be uniformly dark brownish. Labrum long, slender, abdomen subshining black to blackish-brown. ♂: f_3 with

- 4-5 long anteroventral bristly hairs on apical half much longer than femur is deep; lateral genital lamella deeply cleft apically, and the terminal process broad, hypandrium short bifurcated. ♀: t_3 unusually dilated on apical third and strongly curved (syn. *H. subpollinosa* Collin) (see also couplet 97) 66. *H. pseudocornicula* Strobl
- Generally larger species, body length varies from 3 to 5 mm, robust, and strongly bristled. Scutum dull brownish-grey, in dorsal and posterior views with 3 velvety black shifting stripes. Labrum unusually strong, abdomen dull grey. ♂: f_3 with the usual anteroventral preapical bristles; lateral genital lamella without any process at the blunt apex, hypandrium apically long bifurcated. ♀: t_3 evenly distinctly dilated and compressed, only slightly curved 75. *H. scrobiculata* Loew
- 93(91) Generally smaller, body about 2.5 – 3.5 mm long; *acr* and *dc* rather long and bristle-like, *acr* regularly 4-serial and widely spaced 94
(Here belongs also *H. longicornis* Strobl, a species known so far from the Hungarian lowlands of the Danube region. A very small species, body about 2 – 2.8 mm long, with unusually long antennae, and simple unmodified legs in both sexes, even male bt_1 long and slender; *acr* setae are 4-serial at middle only, 2-serial anteriorly and posteriorly, small and numerous. A species of the *H. litorea*-group, for redescription with illustration see "Additional species".)
- Generally larger species, body about 3.5 – 5 mm long 95
- 94(93) Frons above antennae and face very narrow, as wide as anterior ocellus; face light grey, contrasting with the blackish frons. Legs with a tendency to be yellow on cx_1 and base of f_1 (see also couplets 40, 102), bt_3 with long black anterodorsal bristles longer than tarsomere is deep. Palpi yellowish, at least at tip; antennal style longer than 3rd segment. Wings brownish, haltere with yellowish stem. Scutum dark brownish-grey dusted, almost black in posterior view. ♂: bt_1 long ovate but small, not much longer than half-length of tibia; ♀: t_3 slender and clearly bent 37. *H. splendida* Straka
- Frons and face wide as usual, uniformly velvety black to greyish-black. Legs uniformly blackish, bt_3 with short hairs. Palpi black; antennal style slightly shorter than 3rd segment. Wings clear (almost whitish in some lights), haltere black. Scutum dull brownish-grey in anterior and dorsal views, when viewed from behind with 3 wide blackish stripes leaving space between bristles grey; *acr* and *dc* sparse, long and bristle-like. ♂: bt_1 long ovate, not much shorter than tibia is long; f_2 and f_3 before tip with very long anteroventral bristly hairs much longer than femora are deep; f_2 ventrally at base and t_3 dorsally at tip with an unusual long bristle; t_1 with a pair of long preapical bristles, a small bristle dorsally in basal quarter, and posteriorly with longer pubescence which is present also on f_1 . ♀: t_3 evenly dilated and laterally compressed, strongly curved; *acr* long and regularly 4-serial 67. *H. quadrifaria* Strobl
- 95(93) Abdomen shining or subshining black from most points of view. Wings clear, squama with pale fringes; haltere with yellowish stem. Frons

- uniformly dull, with a light grey patch above antennae; t_2 with 2-3 short antero- and posteroventral bristles on apical half, and with apical circle of similar bristles; no anterior basal bristle. ♂: bt_1 slender, only slightly wider than tibia at tip, everywhere with minute hairs, no distinct bristles. Palpi strongly bristled, pronotum with additional small spines in addition to the long lateral bristle. ♀: t_3 slender on basal half, then very dilated towards tip (resembling *H. nigrocincta* or the lowland *H. nigrina*) 74. *H. dimidiata* Strobl
- Abdomen dulled by greyish dust, squama with black fringes (pale in *H. scrobiculata* and *H. dimidiata*); haltere with dark stem. Pronotum with a single bristle on each side 96
- 96(95) Abdomen rather silvery-grey pollinose when viewed from in front, dull blackish from other angles, scarcely subshining, with distinct hind-marginal bristles. Wings brownish. Frons with a rhomboid subshining patch above antennae; t_2 with a species-specific long anterior bristle at base, another in apical third anteroventrally, and a circle of similar long preapical bristles. ♂: bt_1 long cylindrical, nearly twice as wide as tibia at tip, dorsally with 1 or 2 distinct black bristles and a smaller preapical pair; tarsi long and slender, tarsomeres clearly longer than deep. Palpi often brownish or nearly yellowish at tip. Hypandrium dorsally before tip with a pair of small flattened spines which is an unique character. ♀: t_3 simple and slender (see also couplet 98) 77. *H. anglodanica* Lundbeck
- Abdomen dull grey to greyish-brown, no hind-marginal bristles. Wings almost clear. Frons dull velvety black. ♂: bt_1 very stout, long black bristled dorsally, similar long dorsal bristles also on the stout t_1 ; tarsi short and stout, tarsomeres 2-4 on fore leg as long as deep. Palpi blackish. ♀ unknown 76. *H. sirbitzmatrona* sp. n.
- 97(80) Labrum long, as long as head is high. Rather a slender, long-legged species about 2.5 – 3 mm long. Wings clear, scutum finely brownish-black dusted, unstriped, subshining in some lights. ♂: bt_1 cylindrical, not much stouter than tibia; ♀: t_3 unusually dilated on apical third and distinctly curved (syn. *H. subpollinosa* Collin) (see also couplet 92) 66. *H. pseudocornicula* Strobl
- Labrum short, clearly shorter than head is high 98
- 98(97) Thorax and abdomen greyish dusted when viewed from in front, scutum in posterior view with 3 indefinite blackish stripes. Face and a patch on frons above antennae grey. Palpi yellowish; antennal style as long as 3rd antennal segment. ♂: bt_1 long cylindrical, 4 times as long as deep and not much wider than tibia; t_3 with strong dorsal and anteroventral bristles in both sexes. ♀: t_3 slender and simple. Larger species, body about 3.5 – 4.5 mm long (see also couplet 96) 77. *H. anglodanica* Lundbeck
- Dorsum of thorax black, more or less shining, or covered with a faint greyish dusting. Frons dull black, without a grey patch below, or uniformly grey (in *H. pygialis*); other combination of characters different 99

- 99(98) Abdominal pubescence whitish. Frons and face densely light grey dusted, occiput black, behind vertex with a more or less visible light grey triangular patch. Scutum metallic, finely brownish-grey dusted, subshining, wings brownish. ♂: genitalia unusually large, hypandrium laterally flattened, largely circular, much higher than end of abdomen. ♀: t_3 thickened, as deep as femur, and curved (Spain, France) (species of the *H. cornicula*-group) 64. *H. pygialis* Chvála
- Abdominal pubescence black. Frons dull black; with a different combination of characters 100
- 100(99) *acr* long, as long as *dc*, bristle-like, regularly 4-serial and widely spaced, not clearly separated from *dc*; the distance between *acr* rows as wide as the distance between *acr* and *dc*. Antennal style long and slender, longer than 3rd segment, or at least as long. Abdomen dull. Wings strongly darkened (lighter brownish in *H. splendida*) 101
- *acr* short and closer together, well separated from *dc*, and often 2-serial anteriorly. Abdomen shining. Species generally about 3 – 4 mm long 103
- 101(100) Legs and haltere uniformly black; a rather small species, body about 2.5 mm long. Scutum uniformly subshining black, palpi strongly black bristled, including 1 very long bristle. t_2 with an anterodorsal bristle in basal quarter, bt_3 with a long black anterior bristle before tip, clearly longer than tarsomere is deep in male, shorter in female. ♂: bt_1 short ovate, about twice as long as deep, and nearly of half-length of tibia; ♀: t_3 simple and slender 25. *H. nigrata* Chvála
(The lowland European *H. nigrina* (Fallén) is a larger species, body about 3 – 4 mm long, with bt_1 in ♂ long cylindrical, not much shorter than tibia, and t_3 in ♀ is unusually dilated and curved on apical two-thirds, very slender at base, very much like as in *H. nigrocincta*. A new record for *H. nigrina* is listed here: France: Gard, Dourbies (855 m) 21.vii.2009, 1 ♂, leg. *Haenni*.)
- Legs paler, cx_1 , base of f_1 and “knees” more or less yellowish (see also couplets 17ff) 102
- 102(101) Frons (above antennae) and face very narrow, about as wide as anterior ocellus, face contrasting light grey. Palpi yellowish, at least at tip; haltere with base of stem yellow. bt_3 with several long anteroventral bristles clearly longer than tarsomere is deep. Larger species, body about 3 mm long (see also couplets 40, 94) 37. *H. splendida* Straka
- Frons and face blackish, and as wide as usual. Palpi and haltere blackish. bt_3 with 2 fine anteroventral bristles before tip. Generally smaller, body about 2.5 mm long (see also couplet 38) 23. *H. merula* Collin
- 103(100) *h*, *ih* and *ph* bristles absent, abdominal terga without hind-marginal bristles, pronotum with a distinct bristle on each side. Legs often with cx_1 , base of f_1 and “knees” more or less yellowish; cx_1 with pale hairs. *acr* 4-serial, *dc* 1-serial, all minute. Medium-sized, body about 3 – 3.5 mm long (species of the *H. maura*-group) (see also couplet 13)
. 115. *H. media* Collin

- *h*, *ih* and *ph* bristles distinct, although sometimes fine; abdomen with well developed hind-marginal bristles. Legs uniformly black, but if fore leg translucent yellowish at base, then cx_1 with black hairs 104
- 104(103) Wings strongly darkened, dark brown, legs entirely black; *acr* anteriorly 2- to 3-serial, *dc* slightly longer. ♂: genitalia with a distinctly produced, very convex, keel-like hypandrium. ♀: t_1 with 1 or 2 bristles dorsally, t_3 with rather long anteroventral bristles clearly longer than tibia is deep 61. *H. cornicula* Loew
- Wings almost clear or only faintly brownish clouded, legs with a tendency to be paler at least on cx_1 ; *acr* almost regularly 4-serial and as long as *dc*. ♂: genitalia with hypandrium not enlarged and not conspicuously produced distally 105
- 105(104) Generally smaller, body about 2.5 – 3.5 mm long. Haltere black with brownish stem. ♂: wings clear; genitalia: lateral lamella simple, apical process short and blunt, dorsally with uniform rather short hairs pointing backwards (syn. *H. monedula* Collin) 62. *H. longifurca* Strobl
- Generally larger, body about 3 – 4 mm long. Haltere with a black knob and contrasting light yellow stem. ♂: wings slightly brownish infuscated, not clear; genitalia: lateral lamella with a long pointed terminal process, at base with a tubercle with a tuft of long, forwardly directed long black bristles (about 6), and dorsal bristling pointing backwards, clearly longer and stouter (see also couplet 40) 63. *H. campinosensis* Niesiolowski
- 106(78) Scutum distinctly black striped, or the velvety black stripes change in position from different points of view, or dorsum of thorax entirely dull velvety black in some lights. Male fore tarsi often long, tarsomeres 2-4 clearly longer than deep (except for *H. brevivittata* and some species of the *H. andermattensis*-group). Abdominal pubescence blackish, legs, haltere and palpi black 107
- Scutum more or less shining black, or only very finely pollinose, not striped: if in doubt, the species with legs not quite black, with shortened tarsi (fore tarsomeres 2-4 as long as deep), abdominal pubescence pale, and/or with femora microscopically pilose beneath (*H. bohémica*, *H. albitarsis*, *H. borealis*) are included here 119
- 107(106) Scutum in anterodorsal view with 2 distinct black stripes between *acr* and *dc*; when viewed from above with 4 black stripes; if median stripes indistinct or partly fused in posterior view (in *H. brevivittata* and *H. brevistriata*), then lateral stripes very widened and more or less coalesce, whereas in anterior view scutum almost unstriped. ♀: t_3 more or less compressed and bent: slender in *H. brevistriata* (species of the *H. intermedia*-group) 108
- Scutum with 3 wide velvety black stripes that change in position in different points of view, but most often scutum extensively dull black, with 2 narrow light brownish stripes between *acr* and *dc* when viewed from above and behind. ♀: t_3 unmodified, simple and slender (except for

- H. zermattensis* and *H. parvimaior*) (high mountain species of group 10, *H. andermattensis*-group) 111
- 108(107) Scutum distinctly striped also in anterodorsal view; in dorsal and posterior view with 4 clearly separated well visible stripes. Antennal style short, almost half-length of 3rd segment. Abdomen rather brownish (in *H. bistrinata* greyish pollinose in dorsal view). Tarsomeres on all pairs of legs in male longer than deep. A small, fine *h* bristle 109
- Scutum brownish and almost unstriped when viewed from in front, but with distinct 4 black stripes in anterodorsal and dorsal views, in posterior view the lateral black stripes very broadened, and the 2 median stripes coalescing into a median stripe on *acr* setae. Antennal style longer, 3/4 length of 3rd segment. A distinct *h* bristle 110
- 109(108) f_2 with the usual black bristles anteriorly. ♂: anterior four tibiae and basitarsi densely long pubescent, bt_2 slightly swollen and clothed with long hairs; t_1 with several dorsal bristles much longer than tibia is deep. ♀: t_3 only slightly compressed and curved, clearly narrower than femur is deep 57. *H. hirtipes* Collin
- f_2 without the usual row of anterior bristles. ♂: t_2 and mid tarsus simple, not stouter or compressed, and covered with short hairs only; t_1 finely short pubescent, only about 4 fine dorsal bristly hairs longer than tibia is deep; f_1 densely long pubescent posteriorly, the hairs at least as long as femur is deep. ♀: t_3 very compressed and distinctly curved, at least as deep as femur 58. *H. bistrinata* Zetterstedt
- 110(108) Generally larger, body about 2.5 – 3.5 mm. Abdomen deep black when viewed from above, more blackish-brown in ♀. ♂: t_1 with 4 pairs of very long dorsal bristly hairs becoming longer towards tip, apical pair more than twice as long as tibia is deep; bt_1 very stout, twice as deep as corresponding tibia is wide, and tarsomeres 2-4 short, as long as deep; t_2 with long anterior bristly hairs longer than tibia is deep (as in *H. intermedia*). Lateral genital lamella with a circular, ventrally spinose apical process (*H. brevivittata* complex). ♀: t_3 compressed, almost as deep as femur, slightly curved 59. *H. brevivittata* Macquart
- Smaller species, body generally about 2.3 – 2.6 mm. Abdomen dull grey in both sexes. Legs long, all tarsomeres distinctly longer than deep in both sexes. ♂: t_1 with short hairs only, no distinct setae; bt_1 long and slender, about as deep as corresponding tibia is wide; t_2 with short hairs. Lateral genital lamella with a simple, bare, slender apical process (*H. intermedia* complex). ♀: t_3 slender, slightly undulating 47. *H. brevistriata* sp. n.
- 111(107) Labrum long, almost as long as or at least not much shorter than head is high 112
- Labrum short, clearly shorter than head is high, often of half-length; if in doubt (*H. andermattensis*), the species is included in both sections 116
- 112(111) f_1 with short hairs posteriorly, without longer bristly hairs. ♂: fore tarsus short, at least tarsomeres 3-4 as long as deep 113

- f_1 in both sexes, and also t_1 in ♂, densely long pubescent posteriorly, the hairs at least as long as corresponding femora or tibiae are deep. ♂: fore tarsi vary in length 115
- 113(112) Frontal bristles as long as ocellars. ♂: bt_1 very swollen, much wider than tibia at tip; at least tergum 6 with distinct hind-marginal bristles 114
- Frontal bristles absent or very small and fine. ♂: bt_1 only slightly swollen, nearly as wide as tibia at tip; abdomen practically bare on segments 3-6. Medium-sized, body about 3.5 mm long (see also couplet 118) 87. *H. andermattensis* Strobl
- 114(113) Large species, body about 3.5 – 4 mm long. Scutum dull velvety black when viewed from above, only scutellum paler, brownish. ♂: t_1 and bt_1 covered with short hairs dorsally; genitalia small (= *H. tatra* Niesiolowski, syn. n.) 82. *H. maior* Strobl
- Smaller, body about 3 mm long. Scutum dull black, but in posterodorsal view light cupreous-brown dusted between *acr* and *dc* and in prescutellar depression. ♂: t_1 and bt_1 densely long pubescent dorsally, t_1 also posteriorly, posteroventrally with 3-4 long bristly hairs more than twice as long as tibia is deep; genitalia very large, half as long as rest of abdomen 81. *H. helvetica* Chvála
- 115(112) Larger species, body about 3 – 3.5 mm long. Scutum uniformly brownish in anterior view, when viewed from above cupreous-brown in prescutellar depression and on 2 stripes between *acr* and *dc*. ♂: tarsi short, bt_1 very swollen, and tarsomeres 2-4 as long as deep. ♀: squama ash-coloured, with pale fringes; bt_3 clearly longer than bt_1 , t_3 with several long bristly hairs much longer than tibia is deep . 84. *H. styriaca* Strobl
- Smaller, body about 2.5 – 3 mm long. Scutum with black stripes on lines of bristles in anterior view, viewed from above uniformly dull velvety black, only scutellum paler. ♂: tarsi rather long, bt_1 long cylindrical, 3 times as long as deep and scarcely wider than tibia at tip, tarsomeres 2-3 longer than deep. ♀: squama blackish, with black fringes; bt_1 and bt_3 equally long, and t_3 dorsally with a row of almost equal bristles shorter than tibia is deep 85. *H. merzi* Chvála
- 116(111) Tarsi short, tarsomeres 2-4 on fore leg in both sexes as long as deep. Face, and a small patch on frons above antennae, light grey; *acr* and *dc* small and fine. ♂: bt_1 very swollen, much wider than corresponding tibia. ♀: t_3 thickened, nearly as wide as corresponding femur, and distinctly curved 117
- Tarsi longer, tarsomeres 2-4 on all pairs clearly longer than deep. Frons and face dull black; *acr* and *dc* longer and bristle-like. ♂: bt_1 slender, scarcely stouter than corresponding tibia at tip. ♀: t_3 simple and slender . . 118
- 117(116) Thoracic pleura light bluish-grey dusted, contrastingly paler than scutum; wings almost clear. Scutum in posterodorsal view with 2 wide, light grey stripes between *acr* and *dc*. Larger species, body 3.2 – 3.6 mm long 86. *H. zermattensis* Chvála
- Thorax uniformly dull black, pleura with a greyish tomentum; wings brownish. Scutum uniformly dull velvety black when viewed from

- above and behind, only scutellum brownish. Smaller species, body 2.3 – 2.8 mm long 83. *H. parvinaior* sp. n.
- 118(116) Smaller, body about 2 – 2.5 mm long. Scutum almost uniformly velvety blackish-brown, light pattern very indistinct. Frontal bristles long, as long as ocellars. Fore tarsi including basitarsus slender, unmodified; *acr* and *dc* very long, longer than antennal style; palpi long bristled beneath, also abdominal hind-marginal bristles prominent 88. *H. simplicipes* Strobl
- Larger, body about 3.5 mm long. Scutum with 3 velvety black stripes on lines of bristles visible from all points of view. Frontal bristles not developed, or only minute. ♂: *bt*₁ scarcely stouter than tibia at tip; *acr* and *dc* shorter than antennal style, though rather coarse; palpi with a single long preapical bristle in addition to short bristly hairs, and abdominal segments 3-6 almost bare, without hind-marginal bristles (see also couplet 113) 87. *H. andermattensis* Strobl
- 119(106) *f*₁ very thickened, posterior four femora slender; legs entirely black, only the fore “bent knees” yellowish. Wings brownish, long and narrow, axillary lobe little developed. Scutum shining black, *dc* very long, bristle-like, as long as antennal style and few in number, about 8 bristles in one row; *acr* small, in 2 close rows and of half length of *dc* bristles 31. *H. perversa* Oldenberg
- *f*₁ not conspicuously thickened, all femora almost equally stout. Wings with well developed axillary lobe, and axillary excision distinct 120
- 120(119) Tarsi long and slender, tarsomeres 2-4 on fore leg clearly longer than deep 121
- Tarsi short, tarsomeres 2-4 on fore leg very short in ♂, at most as long as deep, scarcely longer in ♀; if slightly longer (*H. biseta* of the *H. choricica*-group), then small species up to 3 mm long, *bt*₁ in ♂ with 2-4 strong black bristles dorsally, and dorsum of thorax polished black. Generally small, shining black species, body about 2 – 3 mm long; if larger (*H. borealis*), then scutum more brownish-grey with 3 indefinite blackish stripes, *acr* and *dc* very inconspicuous, and pubescence on *cx*₁ and base of abdomen pale to rusty-brown 128
- 121(120) Small, body about 2 – 2.5 mm long; black species with haltere, legs and all setae and hairs black; ♂: *bt*₁ very swollen, twice as long as deep . . 122
- Larger species, body generally about 2.5 – 4 mm long, combination of characters different 123
- 122(121) ♂: *bt*₁ covered with short hairs, without strong bristles; ♀: *t*₃ evenly thickened and distinctly curved. Antennal style slender; wings almost clear, only indistinctly brownish clouded; scutum silvery-grey pollinose when viewed from in front 26. *H. goetzei* Chvála
- ♂: *bt*₁ dorsally with 3 strong bristles (occasionally with 2 or 4); ♀: *t*₃ simple and slender. Antennal style unusually thickened; wings brownish, almost dark brown on costal half; when viewed from in front scutum finely dark cupreous-brownish pollinose, with 2 narrow black stripes between lines of bristles 100. *triseta* Chvála

- 123(121) All femora densely microscopically silvery pilose beneath f_3 more or less thickened, especially in ♂; *acr* often more than 2-serial (species of the *H. albitarsis*-group, see also couplets 86 and 87) 124
- Femora without microscopic silver pilosity beneath 125
- 124(123) Legs uniformly black. Abdomen subshining black, with a silvery lustre in female. ♂: f_3 slightly dilated and ventrally with very short, black, spine-like bristles. Vein Sc usually complete, reaching costa (see also couplet 87) 117. *H. bohémica* Straka
- Legs with yellowish "knees", often also posterior tibiae and tarsi somewhat paler. Abdomen densely light grey dusted, especially in female. ♂: f_3 distinctly thickened, ventrally with a row of strong black bristles nearly half as long as femur is deep. Vein Sc always incomplete, not reaching costa (see also couplets 55, 57, 86) 116. *H. albitarsis* von Roser
- 125(123) cx_1 with pale hairs. Scutum and abdomen when seen from above rather light grey dusted; palpi yellowish. Long-legged species, "knees" yellowish, wings clear. ♀: *acr* usually nearly 4-serial, wings whitish, (see also couplets 44, 89) 33. *H. pseudosaratrix* Strobl
- cx_1 with black hairs. Scutum somewhat metallic, finely dark brownish-grey pollinose; *acr* and *dc* long and bristle-like, and only about 10 setae in one row; palpi blackish. Legs entirely black (species of the *H. lasiochira*-group) 126
- 126(125) Wings almost clear, very faintly brownish; antennal style very thickened, nearly one-half length of 3rd segment. Thoracic pleura dull grey below on katapisternum and meron (sterno- and hypopleurum) upper half on anepisternum and anepimeron (meso- and pteropleurum) contrasting darker, subshining black. ♂: t_3 dorsally with unusually long bristly hairs at least 3 times as long as tibia is deep, some long, bristly hairs also on t_1 towards tip; hind-marginal abdominal bristles very long, sternum 8 with a fan of long bristles overlapping genitalia as in *H. hyposeta* and *H. manicata* (*H. caesceus*-group). Genitalia small, especially hypandrium, as wide as abdomen at tip. ♀: t_3 compressed and narrower than femur, slightly bent, dorsally with a row of 5-6 bristly hairs nearly as long as tibia is deep. Small species, body about 2.5 mm long (syn. *H. longesetosa* Strobl) 69. *H. pilosopectinata* Strobl
- Wings brownish clouded; antennal style slender. Thoracic pleura uniformly grey dusted including upper half of anepisternum and meron. ♂: t_3 with usual hairing and bristling, dorsal and anteroventral setae at most slightly longer than tibia is deep. Abdomen with hind-marginal bristles of the usual length, and no fan-like long setae on sternum 8 posteriorly. Genitalia very large, larger than the 6th abdominal segment, at least hypandrium strongly flattened. ♀: t_3 evenly dilated, laterally compressed, narrower than femur, and only very slightly bent at middle. Generally larger species, body about 2.5 – 3.5 mm long 127
- 127(126) Antennal segment 3 long, style two-thirds as long; *acr* and *dc* very long, bristle-like, about as long as antennal style, and few in number

- (about 8 pairs of *dc* and 5 pairs of *acr*), *acr* in 2 widely separated rows, the distance between the two rows and between *acr* and *dc* almost equal. Wings brownish. ♂: f_1 with a row of about 5 long fine bristly hairs posteriorly longer than femur is deep, bt_1 densely long pubescent dorsally, t_3 with dorsal and anteroventral bristles slightly longer than tibia is deep (temperate Europe, Southern France, Northern Italy) 70. *H. lasiochira* Strobl
- Antennal segment 3 smaller, style slightly longer; *acr* and *dc* bristle-like, but shorter than antennal style, *acr* in 2 closer rows, the distance between *acr* and *dc* is clearly larger. Wings more strongly brown infuscated. ♂: f_1 posteriorly with hairs not longer than femur is deep, t_1 and bt_1 mostly short pubescent, t_3 with small, thin dorsal and anteroventral bristles shorter than tibia is deep (Spain, east to Switzerland) 71. *H. strakai* Chvála
- 128(120) Larger species, body about 3 – 3.5 mm long. Scutum brownish dusted in anterior view, but prescutellar depression contrasting grey; when viewed from behind blackish-grey, with 3 broad indefinite black stripes along lines of bristles. Abdomen dull brownish dusted. Wings clear; palpi, legs and haltere quite black. All hairs and bristles fine, short, *h* and *ih* bristles fine; legs without distinct bristles, femora beneath with silvery pile. Abdominal pubescence and hairs on legs pale to rusty-brown. ♂: bt_1 egg-shaped, twice as long as deep and much wider than tibia at tip, short pubescent. ♀: t_3 slender at extreme base, otherwise very dilated, as deep as femur, and distinctly curved 89. *H. borealis* Oldenberg
- Smaller species, about 2 – 3 mm long, mostly shining black, or scutum only thinly pollinose when viewed from in front. Abdomen dull black also when viewed from behind. Small, short legged species (group 12, *H. chorica*-group) 129
- 129(128) ♂: t_1 with a row of about 8 strong black dorsal bristles at least 3 times as long as tibia is deep. ♀: t_3 spindle-shaped, strongly dilated about middle, tips narrower (also in *H. pseudochorica*) 130
- ♂: t_1 with short hairs dorsally, at most with a few longer bristly hairs before tip, at most twice as long as tibia is deep at tip. ♀: t_3 slender or evenly compressed and curved, not spindle-shaped and broader than femur; if spindle-shaped and broader than femur (*H. pseudochorica*), then bt_3 with 2-4 distinct anterodorsal bristles 132
- 130(129) Scutum, when viewed from in front, uniformly finely brownish-grey dusted. ♂: only t_1 with long dorsal bristles, bt_1 with 2 small, fine pre-apical bristly hairs 101. *H. pectinipes* Strobl
- Scutum shining black from all points of view, and without the combination of other characters 131
- 131(130) Ocellar and frontal bristles equally long and strong. ♂: bt_1 and the following 3 tarsomeres long bristled dorsally; t_2 simple, not swollen, and covered with short hairs 102. *H. barbipes* Frey

- Frontal bristles very small and fine, at most half as long as ocellar bristles. ♂: entire fore tarsus with short hairs, without distinct bristles; t_2 strongly dilated towards tip and dorsally densely covered with long bristles 103. *H. hystrix* Strobl
- 132(129) Scutum, when viewed from in front, finely brownish or brownish-grey dusted. ♂: bt_1 rather longer ovate, about twice as long as deep, covered with short hairs 133
- Scutum shining black from all points of view. ♂: bt_1 broader and shorter; if almost twice as long as deep, then with 2-5 long bristly hairs dorsally. Antennal style always long, about as long as 3rd segment, and wings more or less brownish 135
- 133(132) Antennal style very short, about 1/3 length of 3rd segment. Ocellar and frontal bristles equally long and fine. Scutum when viewed from in front uniformly finely dusted also anteriorly. ♀: t_3 simple and slender. Early spring species 94. *H. brevistyla* Collin
- Antennal style longer, at least 2/3 length of 3rd segment. ♀: t_3 more or less thickened, compressed and curved. Late spring and summer species . . 134
- 134(133) Scutum subshining black; when viewed from in front finely brownish pollinose posteriorly, the brownish dusting clearly visible as two wide stripes also anteriorly between lines of bristles. Frontal bristles fine and very small, or completely absent. Palpi with a tendency to be light brownish at tip. ♂: t_1 (except for preapical bristly hairs) and tarsus finely short pubescent, tarsomeres 2-4 simple, not produced dorsally; bt_3 with short hairs; hypandrium small. ♀: t_3 slightly and evenly dilated, not deeper than femur, but distinctly curved 95. *H. longivittata* Zetterstedt
- Scutum in anterodorsal view with more or less darker, rather subshining black stripes between lines of bristles. Ocellar and frontal bristles almost equally long and strong. Palpi uniformly black. ♂: t_1 with long bristly hairs dorsally, bt_1 rather densely long pubescent above and 2nd tarsomere produced dorsally; bt_3 with 4-5 long bristly hairs anteriorly; hypandrium very convex and produced distally. ♀: t_3 strongly dilated at middle, spindle-shaped, much wider than femur . . . 96. *H. pseudochorica* Strobl
- 135(132) ♂: bt_1 very stout and short, at most 1.5 times as long as deep, dorsally with short hairs, at most with 1 or 2 fine bristly hairs dorsally before tip. ♀: tarsi shortened, tarsomeres 2-4 on fore leg as long as deep 136
- ♂: bt_1 longer, egg-shaped, about twice as long as deep, dorsally with 2 (occasionally up to 4) long black bristles; if two are present, then the upper one inserted at middle of basitarsus. ♀: tarsi longer, all tarsomeres on fore leg longer than deep; t_3 spindle-shaped, as wide as femur at middle. *acr* shorter than *dc*, and with a tendency to be 3- to 4-serial posteriorly; generally smaller species, body about 2 mm long . . 99. *H. biseta* Collin (The morphologically similar lowland species *H. quadriseta* Collin is larger-sized, up to 3 mm long, with *acr* regularly 2-serial, bristle-like, as long as *dc*; bt_3 in both sexes with 2 small anterodorsal bristles before tip, bt_1 in ♂ with 4-5 strong dorsal bristles, and t_3 in ♀ evenly dilated towards tip, but in apical third scarcely as wide as femur.)

- 136(135) Legs quite black. Wings faintly brownish; *acr* in two uniform rows.
 ♂: tarsomeres 2-4 on fore leg dorsally produced; hind trochanter simple.
 ♀: t_1 dorsally at tip with a long bristle which is as long as bt_1 is long
 97. *H. chorica* (Fallén)
- Legs translucent yellowish at least on cx_1 and base of f_1 (see couplet 43).
 Wings darker brown; *acr* strongly diverging on posterior half of scutum.
 ♂: only tarsomere 2 on fore leg produced dorsally; hind trochanter with
 a spur-like projection anteriorly. ♀: dorsal bristle at tip of t_1 much
 shorter 98. *H. aartseni* Chvála

LIST OF GROUPS AND SPECIES

1. *Hilara flavipes* group
 1. *H. flavipes* Meigen, 1822
 2. *H. flavidipes* Chvála, 1998
 3. *H. morenae* Strobl, 1899
 - 3a *H. sturnii* Wiedemann in Meigen, 1822
 4. *H. albiventris* von Roser, 1840
2. *Hilara abdominalis* group
 5. *H. abdominalis* Zetterstedt, 1838
 6. *H. allogastra* Chvála, 2001
 7. *H. alpicola* Chvála, 2001
 8. *H. gallica* (Meigen, 1804)
 9. *H. discolor* Strobl, 1892
3. *Hilara clavipes* group
 10. *H. cilipes* Meigen, 1822
 11. *H. clavipes* (Harris, 1776)
 12. *H. curtisi* Collin, 1927
4. *Hilara canescens* group
 13. *H. canescens* Zetterstedt, 1849
 14. *H. nigritarsis* Zetterstedt, 1838
 15. *H. cuneata* Loew, 1873
 16. *H. setosa* Collin, 1927
 17. *H. lasiopa* Strobl, 1892
 18. *H. eviana* Straka, 1976
 19. *H. hyposeta* Straka, 1976
 20. *H. manicata* Meigen, 1822
 21. *H. ponti* Chvála, 1981
 22. *H. cinereomicans* Strobl, 1892
 23. *H. merula* Collin, 1927
 24. *H. thoracica* Macquart, 1827
 25. *H. nigrita* Chvála, 2005
 26. *H. goetzei* Chvála, 2005
 27. *H. griseola* Zetterstedt, 1838
 28. ***H. planti* sp. n.**
 29. ***H. crossleyi* sp. n.**
 30. *H. tiefii* Strobl, 1892
 31. *H. perversa* Oldenberg, 1916
5. *Hilara litorea* group
 32. *H. litorea* (Fallén, 1816)
 33. *H. pseudosartrix* Strobl, 1892
34. *H. sartor* Becker, 1888
35. *H. galactoptera* Strobl, 1910
36. *H. morata* Collin, 1927
37. *H. splendida* Straka, 1976
38. *H. tenella* (Fallén, 1816)
39. *H. platyura* Loew, 1873
40. ***H. leukensis* sp. n.**
41. *H. nigrocincta* de Meijere, 1935
42. *H. ternovensensis* Strobl, 1898
(= *H. griseifrons* Collin, 1927)
43. *H. albipennis* von Roser, 1840
6. *Hilara intermedia* group
 44. *H. intermedia* (Fallén, 1816)
 45. *H. tetragramma* Loew, 1873
 46. *H. hirta* Strobl, 1892
 47. ***H. brevistriata* sp. n.**
 48. *H. beckeri* Strobl, 1892
 49. *H. fuscipes* (Fabricius, 1794)
 50. *H. quadrula* Chvála, 2002
 51. *H. quadrifasciata* Chvála, 2002
 52. *H. pilipes* Zetterstedt, 1838
 53. *H. tanychira* Strobl, 1892
 54. ***H. luteihalterata* sp. n.**
 55. *H. embartaki* Chvála, 2008
 56. ***H. polleti* sp. n.**
 57. *H. hirtipes* Collin, 1927
 58. *H. bistriata* Zetterstedt, 1842
 59. *H. brevivittata* Macquart, 1827
 60. *H. coracina* Oldenberg, 1916
7. *Hilara cornicula* group
 61. *H. cornicula* Loew, 1873
 62. *H. longifurca* Strobl, 1892
(= *H. uonedula* Collin, 1927)
 63. *H. campinosensis* Niesiolowski, 1986
 64. *H. pygialis* Chvála, 2008
 65. *H. nigrohirta* Collin, 1927
 66. *H. pseudocornicula* Strobl, 1909
(= *H. subpollinosa* Collin, 1927)
 67. *H. quadrifaria* Strobl, 1892
 68. *H. lurida* (Fallén, 1816)

8. *Hilara lasiochira* group
 69. *H. pilosopectinata* Strobl, 1892
 (= *H. longesetosa* Strobl, 1910)
 70. *H. lasiochira* Strobl, 1892
 71. *H. strakai* Chvála, 1981
9. *Hilara interstincta* group
 72. *H. interstincta* (Fallén, 1816)
 73. *H. lugubris* (Zetterstedt, 1819)
 74. *H. dimidiata* Strobl, 1892
 75. *H. scrobiculata* Loew, 1873
 76. ***H. sirbitzmatrona* sp. n.**
 77. *H. anglodanica* Lundbeck, 1913
 78. *H. aeronetha* Mik, 1892
 79. *H. angustifrons* Strobl, 1892
 80. *H. caerulescens* Oldenberg, 1916
10. *Hilara andermattensis* group
 81. *H. helvetica* Chvála, 1999
 82. *H. maior* Strobl, 1910
 (= *H. tatra* Niesiolowski, 1991, **syn. n.**)
 83. ***H. parvimaiores* sp. n.**
 84. *H. styriaca* Strobl, 1893
 85. *H. merzi* Chvála, 1999
 86. *H. zermattensis* Chvála, 1999
 87. *H. andermattensis* Strobl, 1892
 88. *H. simplicipes* Strobl, 1892
11. *Hilara borealis* group
 89. *H. borealis* Oldenberg, 1916
 90. *H. medeteriformis* Collin, 1961
 91. *H. calinota* Collin, 1969
 92. *H. lacteipennis* Strobl, 1892
 93. *H. pruinosa* Wiedemann in Meigen, 1822
12. *Hilara chorica* group
 94. *H. brevistyla* Collin, 1927
 95. *H. longivittata* Zetterstedt, 1842
 96. *H. pseudochorica* Strobl, 1892
 97. *H. chorica* (Fallén, 1816)
 98. *H. aartseni* Chvála, 1997
 99. *H. biseta* Collin, 1927
 100. *H. triseta* Chvála, 2005
 101. *H. pectinipes* Strobl, 1892
 102. *H. barbipes* Frey, 1908
 103. *H. hystrix* Strobl, 1892
13. *Hilara maura* group
 104. *H. maura* (Fabricius, 1776)
 105. *H. diversipes* Strobl, 1892
 106. *H. hybrida* Collin, 1961
 107. *H. nitidula* Zetterstedt, 1838
 108. *H. nitidorella* Chvála, 1997
 109. *H. femorella* Zetterstedt, 1842
 110. *H. sulcitaris* Strobl, 1892
 111. *H. clypeata* Meigen, 1822
 112. *H. tyrolensis* Strobl, 1892
 (= *H. miriptera*, Straka, 1976, **syn. n.**)
 113. *H. discalis* Chvála, 1997
 114. *H. discoidalis* Lundbeck, 1910
 115. *H. media* Collin, 1927
14. *Hilara albitarsis* group
 116. *H. albitarsis* von Roser, 1840
 117. *H. bohemica* Straka, 1976
- ADDITIONAL SPECIES
Hilara longicornis Strobl, 1894
Hilara flavocoxa Straka, 1976

Group 1 – *H. flavipes*-group

For a characterization of this group, containing the original types of the genus, and for a revision of all known European species, see Chvála (1998).

1. *Hilara flavipes* Meigen, 1822

REFERENCES: Strobl (1892a: 160), Collin (1961: 679), Chvála (2005a: 46) – description and illustration of male fore leg, hind femur, and postabdomen with genitalia, Chvála (1998: 468) – synonymy.

DISTRIBUTION: A species of cold and temperate Europe, widely distributed from southern Scandinavia and the British Isles along the Atlantic coast south to France and Spain, in central parts of Europe south to Austria and Hungary only. In temperate and warmer parts of Europe preferring higher altitudes. It is a fairly common species for instance in the Czech Šumava Mts (Böhmerwald), found at many sites from 800 to 1100m (see Chvála, 1998), also in the Moravian Beskydy Mts, but there are only scarce records from the Alps. A late summer and autumn species, in mountain biotopes mainly from August to October.

MATERIAL EXAMINED: **Czech Republic:** Šumava Mts: Antygl (1100 m) 2.viii.1975 1 ♀; Prášily, River Křemelná (800 m) 29.viii.1994 1 ♀; Spálenec (800 m) 15.viii.1994 1 ♂ 2 ♀; Starý Brunst (960 m) 21.viii.1989 1 ♂; Šmauzy (960 m) 20.viii.1989 1 ♀ (all *Barták*); Jezerní slat' (1050 m) 4.-6.x.2005 1 ♂ (*Spitzer*). Beskydy Mts: Košařiska (550 m) 24.viii.1987 1 ♂; Horní Lomná (520 m) 10.viii.1986 1 ♂ (both *Barták*). **Austria:** Carinthia: Villach 1 ♂ (*Tief*).

2. *Hilara flavidipes* Chvála, 1998

REFERENCES: Chvála (1998: 466) – description and illustration of male post-abdomen.

DISTRIBUTION: *Hilara flavidipes*, a species closely related to the preceding *H. flavipes*, was described only recently from the Romanian Transylvanian Alps, and from western slopes of the Moravian Beskydy Mts (Tinec). Its occurrence in other mountain ranges in central parts of Europe including the Alps is possible and, therefore, it is included here as well.

MATERIAL EXAMINED: **Romania:** Transylvanian Alps, Voineasa, 23.vii.1987 1 ♂ (*Barták*).

3. *Hilara morenae* Strobl, 1899

REFERENCES: Chvála (1971: 334, 2008a: 32) – description, and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: This species, closely related to *Hilara sturmii* Wiedemann in Meigen, was described from the Spanish Cardenas, but now it is known also from Germany, Switzerland and Corsica. Recently, it was discovered among specimens collected by V. Straka in Slovakia on the River Danube at Pribence near Šamorín, 1 ♂ 14.vii.1970 (UMO). Mainly a spring species, in May and June, in Switzerland at low altitudes at about 200 m only.

MATERIAL EXAMINED: **Switzerland:** TI: Gordola, Bolle (220 m) 16.-19.vi.1995 9 ♂ 8 ♀ (*Merz & Bächli*), Gordola, Verzasca (205 m) 15.-19.v.2006 2 ♂ 6 ♀, Gordola, Bolle di Magadino (200 m) 19.v.2006 2 ♂ 2 ♀; Tenero, Lido 205 m, 15.v.2006 19 ♂ 12 ♀ (all *Merz*), Bolle di Magadino, marais (196 m) 30.iv.1996 2 ♂ 2 ♀ (*Pollini*).

3a. *Hilara sturmii* Wiedemann in Meigen, 1822

REFERENCES: Chvála (2005a: 50) – description and illustration of male post-abdomen.

DISTRIBUTION: Widely distributed in Europe from the British Isles and southern parts of Fennoscandia to the Mediterranean. Uncommon in central temperate Europe east to Romania; in southern Europe only in the western parts. A long flight period from May to September, but mainly in spring and early summer.

MATERIAL EXAMINED: **Switzerland.** TI: Gordola, Bolle di Magadino (205 m) 6.vii.2001 3 ♂ (*Merz*).

4. *Hilara albiventris* von Roser, 1840

REFERENCES: Collin (1961: 674), Chvála (2005a: 51) – description and illustration of male postabdomen and genitalia.

DISTRIBUTION: A species of temperate Europe, very rare in the south of Scandinavia (Norway), and from the British Isles (including Scotland) south to France

(Pyrenees), northern Italy and Romania. In central parts of Europe a typical summer species, occurring both in lowlands and at higher altitudes.

MATERIAL EXAMINED: **Czech Republic:** Šumava Mts: Kašperské hory, Losenice (600 m) 1.vii.1995 1♂ (*Barták*). **Switzerland:** GE: Chancy, La Laire (350 m) 25.vii.2004 1♀. ZH: Embrach, Haumüli (400 m) 10.vii.1997 1♂ (all *Merz*). **France:** Pyrenees, Ariège, Ax-les-Thermes (750 m) 8.vii.1990 1♂ (*Barták*); Alpes-de-Haute-Provence, Montagne d. Lure (500 m) 1♂ (*Schacht*). **Romania:** Transylvanian Alps, Voineasa 23.vii.1987 4♂ (*Barták*).

Group 2 – *H. abdominalis*-group

For a characterization of this group, and a revision of all known Palaearctic species, see Chvála (2001).

5. *Hilara abdominalis* Zetterstedt, 1838

REFERENCES: Collin (1961: 618), Chvála (2001: 205, 2005a: 55) – description, with illustration of male and female fore leg, and of male genitalia.

DISTRIBUTION: Throughout Fennoscandia, but much commoner in the north, especially in Lapland, also in Russian Karelia, and on the British Isles, especially in Scotland. Very probably a boreoalpine species, in temperate Europe known only at high altitudes of the Czech Krkonoše Mts (Riesengebirge, or Giant Mts) and Šumava Mts (Böhmerwald). Unknown south of the Czech mountains, all other records from the Alps refer to other related species. The record from Switzerland of Schiegg *et al.* (1999) refers to *Hilara alpicola* (re-examination of A. Stark in 2009), and this species is therefore deleted from the list of Swiss Diptera.

MATERIAL EXAMINED: **Czech Republic:** Krkonoše Mts: Lysečiny (1000 m) vii.1965 1♂ (*Macek*). Šumava Mts: Trojmezňá (1200 m) 12.-24.vi.2003 MT 1♂; Boubín (1250-1350 m) vi.2004 PT 1♀, MT 1♀ (all *Farkač*).

6. *Hilara allogastra* Chvála, 2001

REFERENCES: Strobl (1892a: 172, as *H. heterogastra*), Chvála (2001: 208) – synonymy, homonymy, new name for *Hilara heterogastra* Nowicki, 1868, and description with illustration of male fore leg and genitalia.

DISTRIBUTION: A widely distributed species in mountains of central temperate Europe, south to Bulgaria (Pirin Mts), Romania (Transylvanian Alps) and east to the Caucasus (Georgia). Absent in northern Europe and the British Isles. The northern border of its distribution lies in the northern Czech mountains (Krkonoše, Orlické hory, Jeseníky, Beskydy) and the Slovak West Carpathians (Velká Fatra, Vysoké Tatry, and the Bukovecké hory Mts on the Ukrainian border). For a long period from 19 May to 17 August, for detailed distributional data with the exception of the Alps, see Chvála (2001). The species is often misidentified in the literature as *H. abdominalis*. Strobl (1893: 91; 1898: 206; 1910: 71) recorded it as *H. heterogastra* from many localities in the Styrian Alps, from the Ennstaler Alpen, and from the Rottenmanner and Schladminger Tauern.

MATERIAL EXAMINED: **Austria:** Lower Austria (Schneeberg), Oberösterreich (Hinterstoder), Styria (Ennstaler Alpen, Gesäuse, Rottenmanner Tauern, Schladminger Tauern), Salzburgland (Sulzgau), Tyrol (St Ulrich, Grödnerthal, Bad Ratzes); common from 12 June to

10 August, at altitudes from 700 to 1300 m. **Switzerland:** GR (St Moritz, Zerne, Valbella, Poschiavo), TI (Piora, Bedretto), VS (Längtal, Oberwald, Aletsch); common from 2 July to 17. August, at altitudes up to 1935 m. **Italy:** Landro, Trafoi, Monte Rosa, Macugnaga, S. Martino; common from 8 July to 15 August, at altitudes up to 1900 m. **Slovenia:** Julian Alps, Triglav, Aljažev dom (1100 m) 3.vii.1973 4♂ (*Chvála*).

7. *Hilara alpicola* Chvála, 2001

REFERENCES: Chvála (2001: 212) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: Exclusively an Alpine species, known so far from the Austrian, Swiss and French Alps, mostly at high altitudes above 1000 m. A typical summer species, mainly in July and August, on dates ranging from 2 June to 14 August.

MATERIAL EXAMINED: **Austria:** Styria: Ennstaler Alpen, Oberlaussa Polzanbach (850 m) 18.vi.2000 1♂ (*Chvála*). **Switzerland:** VS: Visperterminen, Giw (1900 m) 16.vii.1997 1♂ (holotype) (*Merz*); Riederalp 31.vii.-8.viii.1976 3♂ 6♀ (*Bächli*); Leuk, Pfywald (600 m) 25.viii.2001 1♂ (*Merz & Landry*). GR: Ftan 12.-14.viii.1978 2♂ 2♀; Alp Flix 4.-8.viii.1975 2♂ 4♀ (all *Bächli*); Samedan Wald (1770 m) 16.vii.1985 1♂, 18.vii.1989 4♂, (1840 m) 21.vii.1988 1♀ (all *Sauter*); S. Vittore, Rebberg (290 m) 2.vi.1997 1♂ (*Merz*); Zerne, Crastatscha (1450 m) 16.vii.1980 1♀ (*Haenni*). **France:** Gard (Aigoual), Arphy, Cascade d'Orgon (1253 m) 17.viii.2002 1♂ (*Haenni*); Alpes Maritimes, Isola (2000 m) 30.vii.1993 1♂ (*Stark*).

8. *Hilara gallica* (Meigen, 1804)

REFERENCES: Collin (1961: 620), Chvála (2005a: 53) – description, and illustration of male fore leg and genitalia.

DISTRIBUTION: Widely distributed in northern Europe as far north as the central parts of Fennoscandia, rare on the British Isles, where it occurs as in the Netherlands mostly on sandy heathlands; in temperate central parts of Europe south to France, Switzerland, northern Italy, Croatia and Hungary, preferring mainly dry steppe biotopes. A spring and early summer species. In Alpine regions already from the end of April to mid of July.

MATERIAL EXAMINED: **Switzerland:** GR: S.Vittore, Rebberg (290 m) 2.vi.1997 1♂; Valbella, Casoja (1530 m) 14.vii.1998 1♀ (all *Merz*); Strada (1070 m) 13.vi.1986 1♂; Ardez (1360-1380 m) 13.vi.1986 1♂ 1♀; Sent, Tuffarolas (1540-1580 m) 13.vi.1986 1♂ 1♀ (all *Haenni*). VS: Zermatt, Haveten (1760 m) 29.vi.1959 1♂ (*Keiser*); Leuk, Platten (630 m) 22.iv.1998 1♂ (*Merz & Botta*); Leuk, Brentjong (920 m) 15.v.2000 1♂ (*Merz & Ulrich*). **France:** Hautes-Alpes, Montgenevre (1800 m) 12.vii.1990 2♀ (*Barták*). **Italy:** AO: Aosta, St Vincent Salirod (mosaique steppe) 14.v.2006 5♂ 2♀ (*Haenni*).

9. *Hilara discolor* Strobl, 1892

REFERENCES: Chvála (2001: 220) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: A species of temperate continental Europe, in the north from Germany and Poland south to the Mediterranean (Spain, Corsica, Greece). In the Alps rather a submountain late summer species, mainly in August and September. Strobl (1892a: 165) described it as “*Hilara discolor* Kowarz i.litt.” from specimens collected by Prof. Tief in the Jeseníky Mts (Czech Republic), and by T. Becker in German and

Polish Silesia; for details and lectotype designation, see Chvála (2004: 131). In the south, in Spain and in the Mediterranean, high in mountains above 1000 m; not yet found in Austria.

MATERIAL EXAMINED: **Switzerland:** SZ: Gersau-Oberholz 14.viii.1980 1♂ (*Rezbanyai*). TI: Piotta 19.-22.viii.1981 1♂ 1♀ (*Bächli*). VS: Leuk, Rotafen (620 m) 10.viii.1997 1♂ 1♀ (*Merz*); Leuk, Finges (550 m) 9.viii.1997 1♂ (*Haenni*); Leuk (635 m) 10.viii.1997 1♀ (*Haenni & Merz*); Zermatt 5.viii. 1♀ (*Becker*, coll. Strobl); Sierre 9.x.1890 1♀ (*Huguenin*). GR: Laax and Sasa 7.-viii.1892 1♂ 3♀ (*Escher-Kündig*); Ftan 12.-14.viii.1978 1♂ (*Bächli*). **France:** Vosges, Queleux 30.vii.1990 1♂ (*Pont*); Gard, Dourbies, 1.6 km SW Rouviere (840-880 m) 11.viii.1995 1♂ 3♀; Gard (Aigoual), Arphy, Cascade d'Orgon (1253 m) 7.viii.2002 3♀ (all *Haenni*).

Group 3 – *H. clavipes*-group

For a characterization of this group, and a revision of the European species, see Chvála (2005a: 57 and 2008a: 39).

10. *Hilara cilipes* Meigen, 1822

REFERENCES: Strobl (1892a: 171), Chvála (2005a: 60) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: Not found in Fennoscandia and in the British Isles, in continental temperate Europe often misidentified as *H. clavipes*. From the Netherlands and central parts of Europe south to France, Switzerland, northern Italy and Romania. A spring and early summer species, everywhere rare. In the Alps also at altitudes about 1100 m.

MATERIAL EXAMINED: **Austria:** Carinthia: Villach, Tschinowitsch, 23.v. 1♂ (*Tief*). Styria: Gesäuse, Kaiserau (1100 m) 11.vi.1997 1♂ (*Chvála*). **Switzerland:** GE: Cartigny, Vers Vaux (335 m) 1.vi.2002 1♂; Bernex, Chante-Merle (415 m) 16.v.1999 2♀. SG: Wattwil (610 m) 11.vii.1997 1♂. ZH: Zürich Katzenssee (450 m) 23.v.1995 1♂, (440 m) 25.v.1996 1♂ (all *Merz*). **Slovenia:** Spodnja Bilpa. River Kolpa (300 m) 15.vi.2006 2♂ 4♀ (*Plaut*).

11. *Hilara clavipes* (Harris, 1776)

REFERENCES: Strobl (1892a: 169, as *H. spinimana* var. *spinigera*), Collin (1961: 655, as *H. matrona*), Chvála (2005a: 58) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: A widely distributed species in Europe, including northern parts of Fennoscandia, but especially common in temperate Europe, often in large swarms both in lowlands and in mountains. For a long period from June to September. A common species in mountains of central Europe, as for instance in the Krkonoše Mts (Giant Mts) and Jesenky Mts, in swarms above streams at altitudes above 1300 m. Strobl (1893: 91) recorded this species from the Austrian Alps (as a new variety *spinigera*, his “*H. matrona*” was in fact *Hilara lasiopa*) from the Styrian Haller Mauern (Natterriegel), the Rottenmanner Tauern (Bösenstein), at about 1300-1700 m, also from Stelzing (1410 m) in Carinthia, and from Gastein in Salzburgland. In the French Alps also above 2000 m.

MATERIAL EXAMINED: **Austria:** Styria: Haller Mauern, Natterriegel (about 1800 m) 22.viii. 1♀; Scheiplsee (= Scheibelsee) 30.vii.1891 1♂ (all *Strobl*). Rottenmanner Tauern,

Scheibelsee (1750 m) 6.vii.2002 1♂, 15.ix.2005 3♀; Schladminger Tauern, Innere Grosssölkertal (1200 m) 24.viii.2001 swarms (all *Chvála*). Salzburgland: Gastein 5.ix. 1♀ (*Becker*). **Switzerland**: GR: Sur, Alp Flix (1965 m) 4.-8.viii.1975 1♂, 1.viii.2004 2♂ 1♀ (*Bächli*); Ausserferrera (1320 m) 4.viii.1999 1♂; Valbella See (1500 m) 17.vii.1996 10♂, Valbella Casoja (1490-1500 m) 11.-24.vii.1997-1998 11♂ 8♀ (all *Merz*); Zernez, Gondas (1480 m) 4.viii.1996 1♂ 1♀ (*Merz & Bächli*). **France**: Haute-Savoie, Pormenaz (1700-2200 m) 8.vii.-15.vii.2003 (MT) 2♀ (*Castella & Speight*). **Italy**: S. Martino 31.vii.1914 1♂ 2♀ (*Oldenberg*).

12. *Hilara curtisi* Collin, 1927

REFERENCES: Collin (1961: 657), Chvála (2005a: 62) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: West and central European species, described from England, where it is a common especially coastal species, and from the Netherlands and western Germany along the Atlantic coast to France, inlands as far as Switzerland and northern Italy. Artmann-Graf *et al.* (2003) published the first record from Switzerland where it occurs at lower altitudes. A typical spring species, mainly in May and June.

MATERIAL EXAMINED: **Switzerland**: SO: Kappel, Baumhecke Höchi Matten (426 m) 15.v.2001 1♂ (*Artmann-Graf*). TG: Ermatingen, Waldwiese (577 m) 15.v.2006 1♂ (*Grimm*).

Group 4 – *H. canescens*-group

For a characterization of this group, and a revision of the European species, see Chvála (2005a: 64 and 2008a: 39).

13. *Hilara canescens* Zetterstedt, 1849

REFERENCES: Strobl (1892a: 164), Collin (1961: 670), Chvála 2005a: 64) – description and illustration of male fore leg, female hind tibia, and male genitalia.

DISTRIBUTION: Widely distributed species in Europe, from central parts of Fennoscandia, where it is fairly common, south to the Mediterranean countries, although in temperate and warm Europe only locally common, and preferring higher altitudes. From mid May, but mainly in June and July. In the Alps only rarely above 1000 m. Strobl (1893: 91) recorded it from Styria only from the vicinity of Admont and from the Ennstaler Alpen (several sites: (Gesäuse, Kaiserau, Mühlauerbach) in July and August.

MATERIAL EXAMINED: **Austria**: Salzburgland: Untertauern 17.vi.2000 1♂; Obertauern, Tweng (1200 m) 17.vi.2000 1♀. Styria: Haller Mauern, Unterlaussa (700 m) 18.vi.2000 2♂ 3♀; Admont, River Enns (640 m) 16.v.2003 1♂, 13.vi.2000 1♀, 2.vii.2002 2♀ (all *Chvála*). **Switzerland**: TI: Biasca Loderio (350 m) 2.vi.1997 1♀; Cadenazzo (270 m) 3.vi.1992 1♂; Tenero-Lido (205 m) 15.v.2006 4♂ 6♀; Gordola, Verzasca-Ufer (205 m) 15.v.2006 1♂ 1♀ (all *Merz*). VS: Mörel SW (730 m) 1.vii.1996 1♀ (*Haenni*). GR: St Moritz 15.vii. 1♂ (*Becker*); S. Vittore, Monticello (280 m) 2.vi.1997 1♂ 1♀. GE: Chancy, Vers Vaux (335 m) 9.vii.2002 1♂; Veyrier, Pont Sierne (400 m) 1.vii.1999 1♀ (all *Merz*). **Slovenia**: Spodnja Bilpa, River Kolpa (300 m) 15.vi.2006 1♂ 1♀ (*Plant*).

14. *Hilara nigritarsis* Zetterstedt, 1838

REFERENCES: Chvála (2005a: 66) – description and illustration of male fore and mid leg, female hind leg, and male genitalia.

DISTRIBUTION: Northern species, throughout Fennoscandia including Russian Karelia and Kola Peninsula, but unknown on the British Isles. In temperate continental Europe only in mountains (Krkonosé Mts, Slovak West Carpathians and Šumava Mts on the Czech-German border). A species of a similar apparently boreoalpine distribution in Europe like *H. abdominalis*, and also not yet found in the Alps. In June and July, mainly on peat bogs.

MATERIAL EXAMINED: **Czech Republic:** Krkonosé Mts (Giant Mts or Riesengebirge): Labský důl (1040 m) 28.vi.-13.vii.2006 (MT) 3♂ 3♀ (*Vaněk*). Jizerské hory Mts: Jizera peat bog (840 m) 24.vi.1999 2♂; River Jizerka near Bukovec (780 m) 26.vi.1999 (all *Preisler*). Šumava Mts (Böhmerwald): Nová Hůrka (800 m) 24.vi.-28.vii.2000 (MT) 1♂ 3♀; Prášíly, River Křemelná (810 m) 8.vii.1994 7♂ 2♀; Popelná (880 m) 3.-4.vii.1988 2♀ (all *Barták*); Pěkná env. (750 m) 9.vii.1992 2♂ (*Roháček*); Velká Niva, peat bog (780 m) 10.-12.vi.2003 1♂ (*Spitzer*).

15. *Hilara cuneata* Loew, 1873

REFERENCES: Chvála (1997c: 301) - description, synonymy, and illustration of male fore leg and genitalia; Chvála (2008a: 46) - diagnosis and illustration of male mid leg.

DISTRIBUTION: South European species widely distributed in the Mediterranean from Spain and the Balearic Islands east to Lebanon; in warm central parts of Europe from the Czech Republic south to French Alpes Maritimes, only at scattered sites in lowlands. Only one new record from Switzerland, not yet recorded in Austria. Mainly in June, in the Mediterranean already in mid May.

MATERIAL EXAMINED: **Switzerland:** BS: Basel 28.vi.1955 2♂ (Keiser). GE: Corsier-Port, vitre véranda 1.-31.vii.2004 1♀ (*Besuchet*).

16. *Hilara setosa* Collin, 1927

REFERENCES: Collin (1961: 659), Chvála (2005a: 68) - description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: Described from Scotland, but later found also in England and along the North Sea coast in Schleswig-Holstein (Rief, 1996). It has not been found in Scandinavia until now, but its occurrence in the Czech Šumava Mts (Böhmerwald) seems to indicate that *H. setosa* is a boreomontane species; its occurrence also in other mountains in central temperate Europe, including the Alps, is very probable. A late summer species, in August and September.

MATERIAL EXAMINED: **Czech Republic:** Šumava Mts: Prášíly, River Křemelná (780-810 m) 29.viii.1994 1♂, 27.viii.2000 1♀ (all *Barták*), 23.viii.2003 1♀, 3.ix.2001 2♀ (all *Chvála*).

17. *Hilara lasiopa* Strobl, 1892

REFERENCES: Strobl (1892a: 168 as *H. matrona* auct.), Chvála (1997c: 308; 2005a: 69) - synonymy, description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: A continental central European species, distributed towards south to France, northern Italy and Romania, absent from Scandinavia and the British Isles. A typical mountain species, rarely in lowlands, preferring colder highlands. A

species of summer occurrence, from mid June to mid August. In the north of its area of distribution for instance in the Czech Orlické hory Mts, the Polish Beskydy Mts, or the West Carpathians, or the Slovak Velká Fatra Mts; for detailed data on distribution, see Chvála (1997c). Strobl (1893: 91) recorded it as *H. matrona* Haliday from Styrian Ennstaler Alpen in the vicinity of Admont, and later (Strobl 1898: 206) also from the Slovenian Alps, from the vicinity of Ojstrica. Common especially in Austrian Alps, from June to August, sometimes above 1000 m.

MATERIAL EXAMINED: **Austria:** Oberösterreich: St. Pankraz, River Steyer (490 m) 2.vii.2001 1♂ 1♀; Totes Gebirge, Hinterstoder (700 m) 8.vii.2001 1♂ 1♀. Styria: Admont env. (Saugraben, Kematengraben) (700-1000 m) 12.vi.-12.viii. 1997-2002 14♂ 6♀; Haller Mauern (Mühlau, Hengstpass, Grabneralm) (750-1300 m) 19.vi.-11.viii.1998-2007 common; Gesäuse, Kaiserau (1100 m) 26.vii.1997 2♂; Weissenbach bei Liezen (700 m) 8.vii.2002 1♂ (all Chvála). **Switzerland:** ZH: Embrach, Haumüli (400 m) 19.vi.1998 1♂ (Merz). GR: Poschiavo, Li Curt (1000 m) 2.vii.2004 2♂ (Haenni). **Italy:** BZ: Bozen (Bolzano) 9.vii.1911 1♂ 1♀ (Oldenberg). **France:** Hautes-Alpes, Montgenevre (1800 m) 12.vii.1990 2♀ (Barták). **Slovenia:** Julian Alps, Triglav, Aljažev dom (1100 m) 3.vii.1973 1♂ (holotype of *H. matronella* Straka) 3♀ (Chvála); Vrsnik, Trib. of River Soča (485 m) 19.vi.2006 1♀; Bistrica, Slap Peričnik (775 m) 19.vi.2006 1♂; River Čabrance (330 m) 15.vi.2006 2♂ 1♀; Planinska Jama (800 m) 20.vi.2006 2♂ (all Plant).

18. *Hilara eviana* Straka, 1976

REFERENCES: Chvála (2005a: 71) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: A typical boreomontane species, widely distributed in central parts of Fennoscandia, but it remains unknown in the British Isles and the Benelux countries. In temperate central parts of Europe only in mountains, known so far besides the Alps only from the Czech Šumava Mts, the Slovak Carpathians (Velká Fatra Mts), and the Bulgarian Rila Planina. A late summer and autumn species, from August to the beginning of October. In the Alps mostly at altitudes above 1000 m.

MATERIAL EXAMINED: **Czech Republic:** Šumava Mts: Prášíly, River Křemelná (810 m) 29.viii.1994 1♀; Nová Hůrka (850 m) 28.viii.1994 1♂ 1♀; Horní Vltavice (800 m) 30.ix.1988 1♀ (all Barták); Prášíly (780 m) 3.ix.2001 3♂ 2♀ (Chvála). **Slovakia:** Velká Fatra: Belianská dolina 9.ix.1970 2♂ (holotype + paratype); Nepalská dolina 25.ix.1971 5♂ 1♀; Gaderská dolina 27.viii.1970 9♂ 23♀; Oravská Polhora 20.viii.1971 4♂ 7♀ (all paratypes, Straka). **Austria:** Styria: Rottenmanner Tauern, Wirthsgraben bei Hohentauern 28.viii. 3♂ 2♀ (Strobl, as *H. manicata*). Schladminger Tauern, Sölkpass, Inner Grosssölk (1200 m) 24.viii.2001 1♂; Haller Mauern, Mühlau (900 m) 16.ix.2005 1♂; Pyhrnpass, Kalkofen (1100 m) 24.ix.2006 1♀; Gesäuse, Kaiserau (1100 m) 17.ix.2006 1♂ (all Chvála). **Switzerland:** GR: Ausserferrera (1300 m) 28.viii.2006 1♀ (Merz).

REMARK: This species is here recorded for the first time from Switzerland.

19. *Hilara hyposeta* Straka, 1976

REFERENCES: Chvála (2005a: 73) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: A species closely related to the preceding *H. eviana*, and with a similar type of distribution. A continental species, known so far in the north only from southern Finland, but it has a wider distribution in temperate central Europe even in

lowlands, although preferring higher altitudes. In central Europe known so far from mountains of the Slovak West Carpathians; its more southern occurrence also in the Alpine region cannot be excluded. The lowland localities are not presented here.

MATERIAL EXAMINED: **Slovakia:** Velká Fatra Mts: Gaderská dolina 27.viii.1970 13♂ 2♀ (holotype and paratypes), 1.-19.viii.1971 24♂ 17♀ (all paratypes *Straka*).

20. *Hilara manicata* Meigen, 1822

REFERENCES: Collin (1961: 647), Chvála (2005a: 75) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: British Isles and southern Scandinavia (Denmark and Norway) in the north, south along the Atlantic coast to the Pyrenees and northern Italy, and the south-eastern border of its distribution lies in Slovakia. Both in lowlands and highlands, absent high in mountains. A typical summer species, from July to the mid of September.

MATERIAL EXAMINED: **Czech Republic:** Beskydy Mts: Horní Lomná (550 m) 26.-28.vii.1996 3♂ (*Barták*). Železné hory Mts: Spačice valley (400 m) 21.vii.1995 1♂ (*Mocek*). **Switzerland:** ZH: Embrach Haumüli (400 m) 10.vii.1997 1♂ (*Merz*). SH: Rüdlingen (350 m) 2.-3.vii.1994 1♀ (*Merz & Eggenberger*). **France:** Vosges, Moyennoutier ravines 7.viii.1990 1♂ (*Pont*). Gard, Dourbies, La Rouvière, Crouzoulous (970 m) 15.vii.2005 1♂. (959 m) 23.vii.2005 1♀. (835 - 855 m) 21.vii.2009 8♂ 4♀, (960 m) 15.vii.2009 6♀ (all *Haenni*). Pyrenees, Ariège, Ax-les-Thermes (750 m) 8.vii.1990 1♀ (*Barták*).

21. *Hilara ponti* Chvála, 1981

REFERENCES: Chvála (2008a: 51) – systematic position, description and illustration of male fore leg and genitalia.

DISTRIBUTION: This species was described from high mountains of central Spain (Sierra Guadarrama) and later recorded from Switzerland (*Merz et al.*, 2002). Because of its morphological similarity with *H. manicata*, it may be overlooked and may occur also elsewhere in central Europe, or at least in mountains east of the Pyrenees. A late summer species, all data are from August.

DIFFERENTIAL DIAGNOSIS: A species of five morphologically similar species of the *H. canescens*-group (*H. eviana*, *H. hyposeta*, *H. manicata*, *H. ponti* and *H. rejecta*), all with more or less yellowish legs, long 2-serial *acr* setae, and black haltere. *H. eviana* and *H. hyposeta* have occiput dull grey, but in the other three species it is dull black.

MATERIAL EXAMINED: **Spain:** Castilia: Sierra de Guadarrama (1400 m) 18.viii.1963 10♂ 5♀ (holotype and paratypes); San Rafael (1260-1500 m) 19.viii.1963 1♂ 3♀ (all *Pont*). **Switzerland:** SO: Limpachtal 13.viii.1987 1♂ (*Duelli*).

Additional, morphologically similar species

H. rejecta Collin, 1927 is not included in the key. It is a lowland species of temperate Europe not yet found in the Alpine region but recently discovered in the south of France (see below). It resembles *H. manicata* but has extensively yellow legs with tibiae and tarsi contrasting black, male *bt*₁ is armed with long hairs and setae dorsally, and *acr* are in two widely separated rows. *H. ponti* is undoubtedly closer

allied to *H. manicata*, the legs in both species are extensively darkened, usually only cx_1 and base of all femora are yellowish-brown, and *acr* are in two close rows; they are very diverging in *H. manicata*. *H. ponti* has the 2-serial *acr* less diverging and a stronger, longer antennal style, about 1.5 times as long as antennal segment 3, and the scutum is dull blackish-grey; the decisive differential feature is the absence of the setae on sternum 8 in male. They form a curious open fan of long black setae around the hypopygium present in *H. manicata* and *H. hyposeta*.

MATERIAL EXAMINED: **France:** Gard, Dourbies, 1.9 km SSE, rive du Crouzoulous (978 m) 17.vii.2009 1 ♂; Dourbies, 2km SSE, rive du Crouzoulous (855 m) 21.vii.2009 1 ♀ (all *Haenni*).

H. veletica Chvála, 1981 is another closely related high mountain species not included in the key. Also a late summer species, still known only in southern Spain from high mountains of the Sierra Nevada, at altitudes from 1100 to 2550 m. It differs from *H. ponti* and its allies by extensively yellow legs and yellow haltere.

22. *Hilara cinereomicans* Strobl, 1892

Figs 1-2

DIAGNOSIS: Medium-sized, body about 3.5 mm long, yellow-legged species with dull black occiput, long, bristle-like 2-serial *acr*, and male with large flattened genitalia, resembling in this way *H. apta* Collin, 1927 (see Chvála, 2005a: 79, for a description and illustrations).

REDESCRIPTION:

Male. The holotype is unfortunately headless, but in the original description it is described as “Kopf klein, der mässig breite Oberkopf sammt Hinterkopf mat schwarz, schwarz beborstet. Rüssel viel kürzer, Fühler fast länger als der Kopf, beide schwarz. Taster klein, sehr dunkel mit einer auffallend langen Borste“.

Thorax greyish dusted, translucently reddish-brown, especially on pleura; *acr* and *dc* black, long, as long as the longest black bristles on coxae; *acr* 2-serial, *dc* 1-serial, last prescutellar pair the longest. Large thoracic bristles black, very long, 1 *h*, 1 *ih*, 2 *ntpl* (? 1 *ph*) with 2 smaller hairs at sides of lower hind *ntpl*, 1 *sa*, 1 *pa*, 2 pairs of *sc* (outer pair shorter) and a distinct bristle on each side of pronotum.

Wings very faintly brownish, stigma large but not very distinct, a long black costal bristle, and anal vein fine, abbreviated before tip. Squama light brown with brownish fringes, haltere blackish-brown with yellow base of stem.

Legs long and slender, black bristled and pubescent, coxae and femora yellow to yellowish-brown, tibiae darker brown, and tarsi nearly blackish; f_1 with longer dark hairs posteriorly, f_2 with 4 distinct black bristles in anterior row, the bristles are slightly longer than femur is deep, ventrally with a double row of longer dark hairs (not as long as femur is deep); f_3 the longest, anterodorsally fringed with shorter dark hairs, antero-ventrally with a row of bristly hairs becoming longer towards tip; t_1 (Fig. 1) slender, only very slightly dilated towards tip, covered with short hairs and, besides three weak preapical bristles, with a row of distinct bristles dorsally; bt_1 very thickened, long ovate, clearly shorter than tibia but as long as rest of tarsus, covered with short hairs except for 3 long black bristly hairs dorsally before tip, and all following tarsomeres slender, much longer than deep; t_2 slender, covered with short hairs and, in addition to

the usual preapical bristles, with a single long bristle in basal third ventrally; t_3 simple, very indistinctly dilated towards tip, some longer bristles anteroventrally and anterodorsally.

Abdomen thinly greyish-brown dusted, slightly shining from some views, blackish, but translucently reddish-brown at base. All segments covered with fine black hairs and with long black hind-marginal bristles. Genitalia (Fig. 2) conspicuously large, rounded when viewed from the side, laterally very flattened, and the large hypandrium slightly brownish and clothed with only fine dark hairs.

Length: holotype body without head 2.9 mm, wing 3.5 mm.

Female unknown.

Holotype identification: Described from a single male collected by Prof. Tief in St. Anna near Villach, Carinthia. A single male in the Strobl Collection in Admont is undoubtedly the holotype and it was labelled by the first author in 1970. It bears 3 labels, a white label "St. Anna 10/7", a green label written by Strobl "*cinereomicans* ♂", and a red type label "Typen-Exemplar rev. G. Morge 1961" – for details see Chvála (2004: 117).

DISTRIBUTION: This species is actually still known only from Austrian Carinthia.

MATERIAL EXAMINED: **Austria**: Carinthia: St. Anna near Villach 10.vii.1970 1♂ (holotype, Tief).

23. *Hilara merula* Collin, 1927

REFERENCES: Collin (1961: 632), Chvála (2005a: 81) – description and illustration of male fore leg and hind basitarsus, female hind leg, and male genitalia.

DISTRIBUTION: England and temperate central Europe south to France, Switzerland, Hungary and Romania. For a long period from June to the middle of August. Everywhere rare, mostly in lowlands and hilly countries, absent in mountains. Not yet found in Austria.

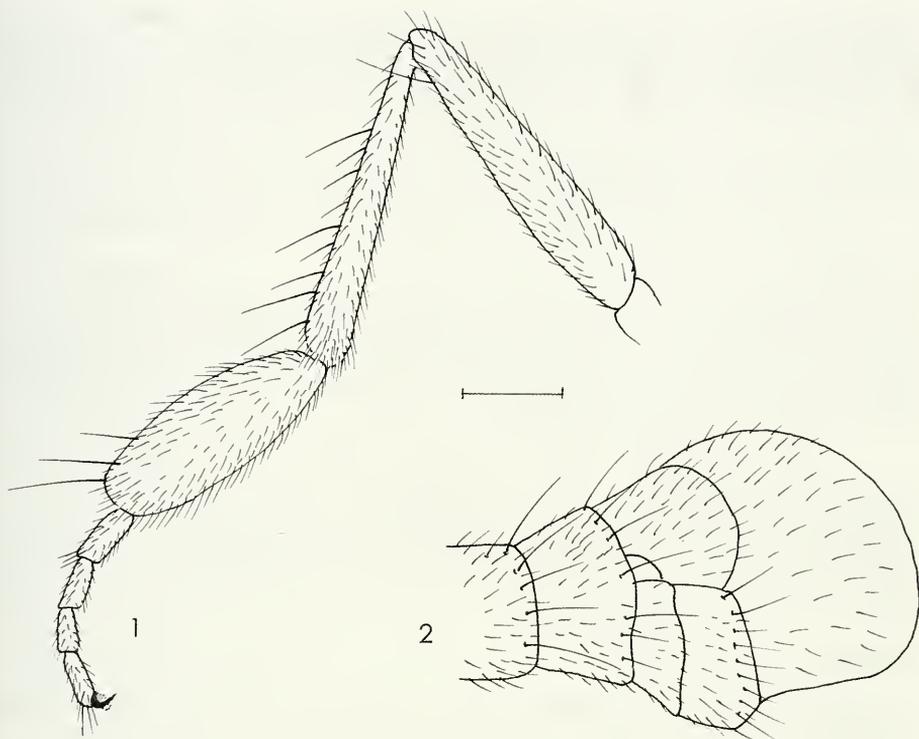
MATERIAL EXAMINED: **Switzerland**: ZH: Embrach, Haumüli (400 m) 10.vii.1997 1♀ (Merz), 29.vi.1998 1♀ (Wolf); Zürich, Ziegelhütte (460 m) 13.vii.1997 1♂ (Merz). **Slovenia**: Gasparci, River Kolpa (310 m) 15.vi.2006 1♂ (Plant). **Romania**: Transylvanian Alps, Rimnicu Vilcea 2.vii.1983 1♂ (*Rozkošný*).

REMARK: For the very closely related species *Hilara flavocoxa* Straka, known so far from the hilly region of western Carpathians only, see couplet 43 in the key and the section "additional species".

24. *Hilara thoracica* Macquart, 1827

REFERENCES: Strobl (1892a: 174 as *H. flava* Schiner), Collin (1961: 672), Chvála (2005a: 85) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: Widely distributed in Europe, from southern parts of Scandinavia (Sweden, Denmark) south to the Mediterranean (Spain, Albania). For a long period from May to the beginning of August. A common species preferring shady places in lowlands, absent high in mountains. Locally common, but because of its early morning and late evening activity, swarming around sunrise and sunset, it is not frequently



FIGS 1-2

Hilara cinereomicans Strobl ♂ (A, Carinthia, holotype). (1) Fore leg in posterior view. (2) Postabdomen with a large, semicircular hypandrium at tip. Scale: 0.2 mm.

collected. Strobl (1893: 206) recorded it from Austria as *H. flava* from Scheibleggerhochalpe in the vicinity of Admont (Kematen I pair in mid of July).

MATERIAL EXAMINED: **Austria:** Styria: Admont, Saugraben (830 m) 3.vii.2001 ♂ swarm; Kematen (800 m) 9.vii.2001 1 ♀ (all *Chvála*). **Switzerland:** NE: Hauterive, Champréveyres-Dessous (435 m) 19.vi.2004 2 ♂, Neuchâtel, Gorges du Seyon (495 m) 21.vi.2006 1 ♀ (all *Haenni*). ZH: Embrach, Haumüli (400 m) 11.vi.1997 3 ♂ (*Merz*), 8.-24.vi.1995-1998 common (*Wolf & Merz*); Zürich Katensee (440 m) 31.v.1997 3 ♂ 3 ♀; Zürich Hönggerberg (530-550 m) 10.-22.vi.1995-1998 4 ♂ 2 ♀; Zürich Zürichberg (600-650 m) 15.vi.1997 1 ♂; Zürich Ziegelhütte (460 m) 13.vii.1997 1 ♂ 1 ♀ (all *Merz*); ZH/ZG: Maschwanden, Rüss-Spitz (388 m) 20.vi.1987 1 ♂ (*Rezbanyai-Reser*). TI: Mte. S.Giorgio (600-1100 m) 18.vi.1995 1 ♂ (*Merz & Bächli*). GE: Ecogia, Source captée (420 m) 21.vi.2006 1 ♂; Dardagny, source (420 m) 21.vi.2006 2 ♂ (all *Stucki*); Corsier-Port, vitre véranda 1.-30.vi.2006 1 ♀ (*Besuchet*). **France:** Pyrenees, Can Baills, 5km SW Thuir (610 m) 11.vi.2007 4 ♂ (*Merz*).

REMARKS: *Hilara flavitarsis* Straka, 1976, described and still known from a single pair collected on 12.vi.1942 by Blachanov at the Macedonian/Albanian Ochrid Lake, is a closely related species. The holotype ♂ and paratype ♀ (mounted on one pin) are clearly immature specimens, differing from *H. thoracica* by a smaller size (body about 3.5 mm), the uniformly pale yellowish to almost whitish-yellow colouration, with head and antennae uniformly yellow like the other parts of body and legs.

Furthermore, male bt_1 (figured by Straka, 1976: 31, Fig. 33) is as long as corresponding tibia, and clearly uniformly stouter, with following tarsomeres rather short, not much longer than deep (very long and slender in *H. thoracica*). The type pair is in the collection of the senior author, now in UMO.

25. *Hilara nigrita* Chvála, 2005

REFERENCES: Chvála (2005b: 107) – description and illustration of male fore leg, hind basitarsus, postabdomen and genitalia.

DISTRIBUTION: An exclusively mountain species of temperate Europe, known up to now only from mountains of the Czech Republic (Šumava Mts), Slovakia (Malá and Velká Fatra Mts), the Alps, the Bulgarian Stara planina, and Romanian Transylvanian Alps. A summer species, in July and August, rarely already in June. In the Alps only at lower altitudes between 400 and 900 m.

MATERIAL EXAMINED: **Austria:** Oberösterreich: Totes Gebirge, Rossleithen, River Piessling (650 m) 8.vii.2001 1♀. Styria: Weissenbach near Liezen (700 m) 8.vii.2002 3♀; Frauenberg, Ennstal (680 m) 4.vii.2001 1♀; Haller Mauern, Mühlau (750 m) 3.vii.2002 2♀, (900 m) 25.viii.1999 1♀; Oberlaussa, Polzanbach (850 m) 18.vi.2000 1♂ (all Chvála). **Switzerland:** VS: Leuk, Platten (623 m) 1.viii.1998 8♂ 7♀, 3.viii.1998 2♂ 1♀ (all Merz & Bächli); Leuk, Rotafen (625 m) 10.viii.1997 1♂ (*Haenni & Merz*). ZH: Embrach, Haumüli (400 m) 10.vii.1997 1♂ (*Merz*).

26. *Hilara goetzei* Chvála, 2005

REFERENCES: Chvála (2005b: 100) – description and illustration of male fore leg, female hind tibia, and male postabdomen with genitalia.

DISTRIBUTION: Like the preceding *H. nigrita* a mountain species of temperate Europe, known so far only from the Slovak Carpathians (Malá Fatra Mts), the Austrian Alps and Swiss lowlands. Early summer species, from June to the middle of August, in the Alps mainly at lower altitudes between 350 and 650 m.

MATERIAL EXAMINED: **Austria:** Oberösterreich: Totes Gebirge, St.Pankraz, River Steyer (600 m) 12.vi.2000 3♂ (holotype and paratypes), 24.vii.1997 2♂ 1♀, 6.viii.1998 9♂ 2♀, 2.vii.2001 1♂ (all paratypes), 27.vii.2005 common, swarms; Rossleithen, River Piessling (650 m) 8.vii.2001 1♂ (all Chvála). **Switzerland:** ZH: Embrach, Haumüli (400 m) 19.vi.1998 1♂, 10.vii.1997 1♂ (all Merz), 23.-29.vi.1998 2♂ (*Wolf*); Zürich, Ziegelhütte (460 m) 13.vii.1997 1♂ (*Merz*). GE: Dardagny, Rivière de Roulave (390-430 m) 11.viii.2000 1♀ (*Merz & Bächli*), 30.vi.2001 1♂; Dardagny, Le Moulin (360 m) 30.vi.2001 1♂ 1♀; Chancy, bord du Rhône, 28.vii.2002 1♂; Chancy, La Laire (350 m) 1.vii.2001 1♀ (all Merz).

27. *Hilara griseola* Zetterstedt, 1838

REFERENCES: Chvála (2005a: 87) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: A common and widely distributed species in northern Europe including Lapland, for a long period from May to September. A mainly northern species with a boreomontane type of distribution: absent on the British Isles, very rare in the Netherlands, and in temperate Europe only at higher altitudes and in mountains. An early spring species in temperate Europe, including the Alps, already in April. The species was very often misidentified in central parts in Europe.

MATERIAL EXAMINED: **Austria:** Oberösterreich: Steyer River N of Hinterstoder (500 m) 24.v.2009 1♂ (*Chvála*). Styria: Admont (640 m) 2.-7.v.2008 8♂ 2♀; River Enns near Admont (620-640 m) 16.-22.v.2003 3♂ 5♀, 1.-16.vi.2000 1♂ 1♀; Hall near Admont 5.vi.1996 1♀; Haller Mauern, Oberlaussa (700 m) 24.v.2003 1♀; Gesäuse, Kaiserau (1100 m) 11.vi.1997 1♂ (all *Chvála*); Gesäuse 28.v.1890 6♂, Admont 25.vi.1♂ 1♀ (all *Strobl*). Carinthia: Villach 25.iv.1♂ 1♀ (*Strobl*). **Switzerland:** GL: Linthal 9.vi.1913 1♂ 1♀ (*Oldenberg*). TI: Biasca, Loderio (350 m) 2.vi.1997 1♂ 2♀, 16.v.2006 1♂; Magadino, Quartino (205 m) 2.iv.2007 4♂ 6♀ (all *Merz*). VS: Leuk, Pfynwald (630 m) 25.v.1997 1♂. GE: Cartigny, Moulin de Vert (350 m) 22.iv.1999 1♀ (all *Merz*).

28. *Hilara planti* sp. n.

Figs 3-5

DIAGNOSIS: Rather a small to medium-sized (body 2.5 – 3.0 mm long) dull grey species closely resembling *H. griseola*. Frons and occiput dull grey, all hairs and bristles on body and legs black, haltere and palpus yellow; *acr* 2-serial, long, and few in number. Legs black, long and slender, without distinct setae, ♂ *bt*₁ long and rather slender, also *t*₃ in ♀ long, slender and unmodified.

DESCRIPTION:

Male. Head black, frons and face wide, face nearly square-shaped and almost silvery-grey dusted, the equally wide frons dull grey, similarly like vertex and occiput. All hairs and setae on head black, upper vertical and postocular setae long and fine, about as long as antennal style, the 2 pairs of ocellar and frontal setae clearly longer. Antennae black, style long and slender, as long as segment 3. Palpi uniformly yellowish-brown, very pale, covered ventrally with a few dark hairs, and a very long black preapical seta, which is as long as the short labrum, half length of head height.

Thorax dull dark grey, with all hairs and setae black; scutum viewed from in front uniformly grey, in anterodorsal view with two narrow dark lines between *acr* and *dc*, in dorsal and posterodorsal views sides almost dull blackish, the median line disappear, and the central area between *dc* setae almost brownish, similarly like scutellum. Large marginal setae including *h* and *ph* setae long and fine, 2 setae of the 4 *ntpl*, last 2 pairs of prescutellar *dc*, a *pa* seta, and the inner pair of 4 *sc* the longest, clearly longer than the 2 pairs of ocellar and frontal bristles on head; *acr* rather widely 2-serial (although the distance between the 2 rows is smaller than the distance between *acr* and *dc*), *dc* 1-serial, all fine and as long as antennal style, few in number, only 8-9 setae in one row. Pronotum on each side with a distinct seta about as long as antennal style, otherwise prothorax almost bare.

Wings very indistinctly brownish clouded, almost clear, with distinct dark veins, dark brown costal stigma, a long radial fork, and a long costal bristle as long as *pa* seta. Squamae very pale yellowish-brown with dark fringes, in some lights fringes are nearly pale. Haltere uniformly yellow.

Legs long and slender, fore coxae towards tip, and often also especially fore femur at least at base, translucent dark brownish, clearly paler than other parts. All hairs on legs blackish, longer setae practically absent, with the exception of a long diverging pair at tip of *t*₁ (see Fig. 3), a row of usual anterior setae (about 5) on *f*₁, 1 or 2 long fine anteroventral setae on *f*₃ before tip, and about 4 dorsal setae on *t*₃ about as long as tibia is deep. Fore leg as in Fig. 3, *bt*₁ long cylindrical, nearly as deep as tibia and scarcely longer than its half-length, and tarsi on all pairs long, slender, and covered with short hairs only.

Abdomen dulled by brownish-black colour, although terga in some lights almost shining black; pubescence uniformly black, short, hind-marginal bristles fairly long but thin. Genitalia (Figs 4-5) small, covered with fine dark setae, lateral lamella with a slender apical process like in *H. griseola*, and hypandrium apically pointed and heavily sclerotized.

Length: body 2.5 – 3.0 mm, wing 3.6 – 3.8 mm (holotype body 3.0 mm, wing 3.8 mm).

Female. Very much like male in all main differential features including the length of bristling on head and thorax, but wings more distinctly brownish clouded. Legs long, slender and similarly short pubescent and with the same few setae as in male, only bt_1 is simple; t_3 is almost slender, and very indistinctly undulating in posterior view, not clearly curved. Abdomen uniformly subshining brownish-black, with all black hairs and hind-marginal setae smaller and finer.

Length: body 2.6 mm, wing 3.3 mm.

DIFFERENTIAL DIAGNOSIS: A species closely resembling *H. griseola*, differing by its generally smaller size (body only up to 3 mm long), but especially by the yellow palpi, and by the translucent brownish fore coxae and base of all femora. The female of *H. griseola* is generally larger-sized, about 3 mm long, the scutum is more dull brownish, but t_3 is similarly shaped and bristled.

Holotype ♂: **Switzerland:** TI: Biasca-Loderio 350 m, 7180/1375, 16.v.2006, leg. B. Merz (MHNG).

Paratypes. 4♂ and 1♀ with the same data as holotype (MHNG, 1♂ UMO).

DERIVATIO NOMINIS: This species is named in honour of the British dipterist Dr Adrian Plant of Cardiff, who added very much in the studies of the British and Mediterranean *Hilara* species.

DISTRIBUTION: Low altitudes in southern Switzerland, a spring species.

29. *Hilara crossleyi* sp. n.

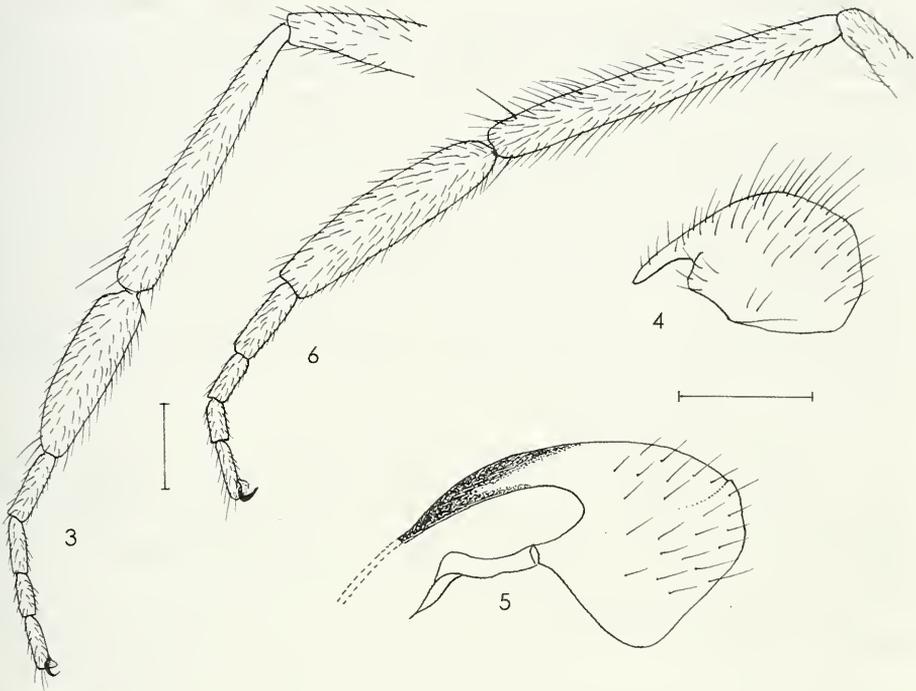
Fig. 6

DIAGNOSIS: A medium-sized (body 3 – 4 mm long), dull dark grey species with long, slender and uniformly black legs; frons and occiput dull grey, haltere yellow. Abdominal pubescence whitish, but all thoracic setae black, long and thin, *acr* 2-serial, and few in number.

DESCRIPTION:

Male. Head dull dark grey, uniformly dusted on both very wide frons and face, and on occiput. Long setae on head black and thin, but lower part of occiput below neck with whitish hairs; the two pairs of ocellar and frontal setae unusually long, much longer than antennal style, postvertical and upper postocular setae much shorter. Antennae black, style long and slender, two-thirds length of segment 3. Palpi black, light greyish pollinose, and ventrally covered with fine black hairs, preapical seta very long. Labrum long, not much shorter than head is high, porrect labium even slightly longer.

Thorax including pleura uniformly dull grey, scutum when viewed from above brownish-grey, leaving scutellum and notopleural depression greyish; scutum in frontal and anterodorsal views with a wide median darker line on *acr* setae, in dorsal view



FIGS 3-6

Hilara planti sp. n. ♂ (CH, TI: Biasca-Loderio, paratype). (3) Fore leg in posterior view. (4) Lateral genital lamella. (5) Hypandrium with postgonite. - *Hilara crossleyi* sp. n. ♂ (CH, TI: Biasca-Loderio, holotype). (6) Fore leg in posterior view. Scale: 0.2 mm.

the central stripe nearly disappears, but there are two broad lateral faint darkened stripes outside of *dc* setae. All thoracic setae thin, *h* and *ih* setae small, *ph* and 3 *npl* setae long and stouter, but the longest are the last pair of prescutellar *dc*, a *pa* seta, and the inner pair of 4 *sc*; *acr* in 2 widely separated rows, *dc* 1-serial, and as in *H. griseola* and *H. planti* all nearly as long as antennal style, thin and few in number. A very fine small black seta on each side of pronotum, otherwise prothorax practically bare.

Wings faintly brownish clouded, not at least clear, with blackish veins, a long acute radial fork, and a long costal bristle. Squamae yellowish-brown with whitish fringes, haltere yellow.

Legs long and slender, uniformly black coloured and finely greyish pollinose, subshining in some points of view. All hairs and a few setae black; *f*₁ posteriorly with dense black hairs about as long as femur is deep when viewed from above, similar but shorter dense pubescence also on *t*₁ posteroventrally; *f*₂ with the usual anterior setae, but *f*₃ covered mostly with short hairs; *t*₁ with tarsus as on Fig. 6, *bt*₁ not clearly stouter than tibia, long but only short pubescent, similarly like the following tarsomeres, which are clearly shorter than in the related *H. planti*, tarsus is at most as long as *bt*₁; posterior four tibiae and tarsi long, very slender, covered with only short hairs, *t*₃ dorsally with only 2 or 3 longer setae still shorter than tibia is deep.

Abdomen uniformly dark grey dusted, basal segment covered with whitish hairs becoming brownish on mid segments, posterior terga almost dark pubescent; also hind-marginal bristles on terga light brownish on basal segments, blackish posteriorly. Genitalia small, covered with short dark hairs, not dissected on the single holotype male available, but lateral lamella clearly with the same long, rather slender apical process as in *H. planti*.

Length: (holotype) body 4.0 mm, wing 4.5 mm.

Female. Very much like male but smaller, head and thorax with the same long black setae, but wings still more brownish. Legs long and slender, f_1 posteriorly with shorter black pubescence scarcely as long as femur is deep when viewed from above, and t_1 with only short hairs posteriorly; tarsi simple, unmodified, and t_3 quite simple and slender, not curved, dorsally with only a few short setae slightly longer than other short hairs.

Length: body 3.0 – 3.2 mm, wing 3.3 – 4.2 mm.

DIFFERENTIAL DIAGNOSIS: A species of the *H. griseola*-complex, differing from other species of this complex by the whitish pubescent abdomen, brownish clouded wings, the ♂ by the densely longer pubescent f_1 and t_1 posteriorly, and ♀ by the quite simple, slender unmodified t_3 . This new species has been collected together with the preceding *H. planti* sp. n. on the same day and at the same site.

Holotype ♂: **Switzerland:** TI: Biasca-Loderio 350 m, 7180/1375, 16.v.2006, leg. B.Merz (MHNG).

Paratypes: 5 ♀ with the same data as holotype (MHNG, 2 ♀ UMO).

DERIVATIO NOMINIS: This species is named in honour of the British dipterist Dr Roy Crossley, who added very much in our knowledge of the Yorkshire empidid fauna.

DISTRIBUTION: Low altitudes in southern Switzerland, a spring species.

30. *Hilara tiefii* Strobl, 1892

Figs 7-8

REFERENCES: Chvála (2004: 131) – lectotype designation.

DIAGNOSIS: A small, body about 2 – 2.5 mm long, uniformly dull grey species even on occiput and scutum, and *acr* 2-serial, few in number; all hairs and setae on body and legs black. Legs short, black. ♂ bt_1 unusually large and stout, longer than t_1 , ♀ t_3 slightly thickened.

REDESCRIPTION:

Male. Head uniformly dull dark grey, also on occiput, only face lighter greyish dusted; frons very wide, as deep above antennae as antennal segment 3 at base, and still triangularly widening above. All hairs and setae on head black, a pair of ocellar and frontal bristles very long and stout, at least as long as antennal segment 3 without style, upper postocular bristles clearly shorter, of half-length. Antennae black, style fairly long, at least of three-quarters length of segment 3. Palpi dull grey, ventrally before tip with a strong black bristle at least as long as ocellar and frontal setae. Labrum very short, scarcely of half-length of head height.

Thorax uniformly dull bluish-grey, pleura slightly lighter grey, and scutum with an indistinct brownish colouration on the lines of *acr* setae. All hairs and bristles on

thorax black: *acr* in 2 distant rows, *dc* uniserial, all nearly as long as antennal style and few in number, less than 10 setae in one row; a *h* and *ih* bristle not much longer, one *pa* and usually 2 *nupl* longer and stronger, as long as outer pair of 4 *sc*, of these the inner pair very long, nearly twice as long, last pair of prescutellar *dc* shorter; pronotum with a small black bristle on each side.

Wings almost clear with dark brown veins, radial fork long and of usual *Hilara*-like shape, anal vein invisible; squama brownish with pale fringes, as are the hairs along the base of wing below. Haltere uniformly blackish.

Legs uniformly subshining blackish-brown, only finely silvery pilose also on coxae; fore leg (Fig. 7) very short and stout, short pubescent, only femur and tibia with a row of fine, very short setae dorsally; t_1 unusually stout, widening towards tip, and bt_1 (Fig. 7) unusually long, as deep as tibia at tip, but clearly longer; posterior four femora and tibiae much more slender: f_2 with about 5 long anterior setae, otherwise legs only short pubescent, except for rows of fine black setae dorsally on f_3 and t_3 ; tarsi on posterior two pairs rather long and very slender, all tarsomeres clearly longer than deep, especially basitarsi are long, and all are covered with short hairs only.

Abdomen more subshining brownish in contrast to the dull grey thorax, only finely greyish pollinose, with all hairs and setae blackish; hind-marginal bristles on terga long. Genitalia (Fig. 8) rather large, especially the laterally flattened circular hypandrium large; genitalia were not dissected, but the long oblong lateral sclerite (Fig. 8, above in front of the circular hypandrium) looks like if the usual apical process is not clearly separated, or it is completely absent.

Length: body 2.0 – 2.5 mm, wing 2.5 – 3.0 mm.

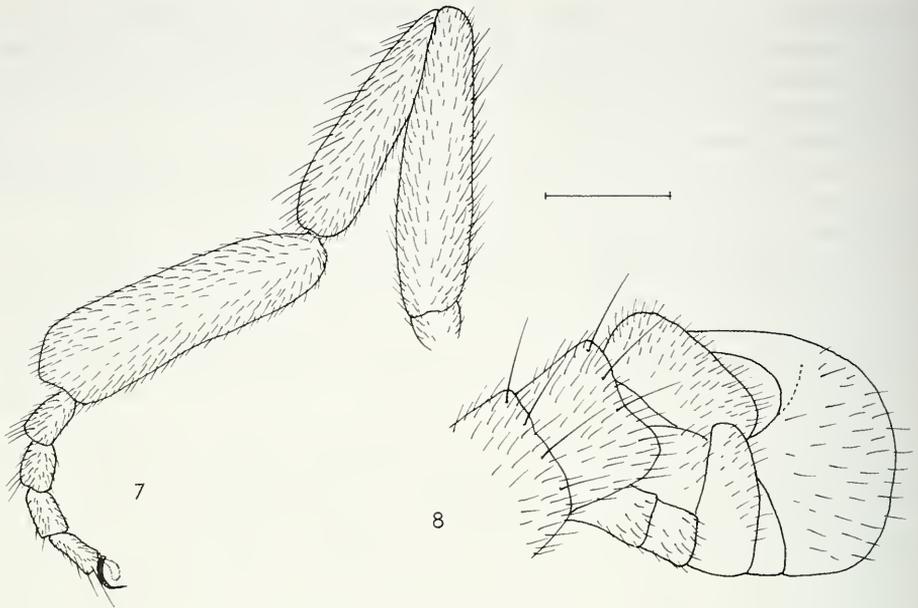
Female. Head, thorax and wings as in male, perhaps veins on wing slightly paler, less distinct. Legs uniformly slender, as well fore tarsi long and slender, with all tarsomeres at least slightly longer than deep; t_3 slightly dilated, as deep as the corresponding femur, viewed from behind slightly curved at middle, and dorsally, similarly like femur, covered with a row of slightly longer black bristly hairs. Abdomen subshining brownish, dissimilar in comparison with the dull grey thorax, and covered with only very fine, short, and rather paler hairs, hind-marginal bristles on terga missing.

Length: body 2.1 – 2.5 mm, wing 2.6 – 3.0 mm.

DIFFERENTIAL DIAGNOSIS: This Alpine species is very characteristic by its small size, the uniformly dull greyish head (including occiput) and thorax, the less numerous 2-serial *acr*, and the male by the extremely large and stout bt_1 , clearly the greatest enlargement within the European *Hilara* species. The unusually enlarged male bt_1 may be compared in the Alps only with the high Alpine *H. sartor*. This species, distributed in much lower Alpine biotopes, should be compared also with *H. goetzei*, but the latter is generally a darker species both on thorax and abdomen, with much smaller bt_1 in male, and clearly more slender t_3 in female.

DISTRIBUTION: An endemic Alpine species, locally very common in June above swift flowing streams at altitudes between 600 to 1000 m. Mainly in June, the only finding in the beginning of August in the Styrian Gesäuse may well be an exception, or a locality date error of Strobl in 1891.

MATERIAL EXAMINED: Austria: Oberösterreich: Steyer River N of Hinterstoder (500 m) 24.v.2009 1♂ 1♀ (*Chvála*). Styria: Gesäuse, Ennsand 28.v.1890 1♂ (lectotype); Gesäuse



FIGS 7-8

Hilara tiefii Strobl ♂ (A, Styria, Gesäuse). (7) Fore leg is posterior view. (8) Postabdomen. Scale: 0.2 mm.

1.viii.1891 1♂ 2♀, 16.vi.1893 1♂ (all *Strobl*); Ennstal, Hall near Admont (640 m) 5.vi.1996 common, 16.vi.2000 2♂ 2♀; Zirnitz near Admont, Schwarzenbach (730 m) 9.vi.1996 common, 30.vi.2005 1♀; Ennstaler Alpen, Oberlaussa, Polzanbach (850 m) 18.vi.2000 1♀; Gesäuse, Johnsbach (900 m) 8.vi.1996 1♂ (all *Chvála*). **Switzerland**: GR: Andeer, Clugin (980 m) 17.vi.1994 3♂ (*Merz*). **Slovenia**: Julian Alps, River Bistrica, Slap Perinik (775 m) 19.vi.2006 2♂ (*Plant*).

31. *Hilara perversa* Oldenberg, 1916

REFERENCES: Chvála (2002a: 76) – description and illustration of antenna and male fore leg.

DISTRIBUTION: This species with unusually stout fore femora, is the only western Palearctic species with “raptorial”-like fore legs. It was described from the Carpathians, the Slovak Vysoké Tatry Mts, later found by Niesiolowski & Krysiak (1996) also on the Polish side of Tatra Mts, and by Ceianu (1992) in the Romanian mountains. The species has not yet been found elsewhere, but its occurrence in the Alps is possible.

MATERIAL EXAMINED: **Slovakia**: Vysoké Tatry Mts: Starý Smokovec, 25.-30.vii.1901 2♂ 6♀ (holotype and paratypes); Studenovodská dolina 31.vii.1901 1♂ 1♀ (*Oldenberg*). Kremnické vrchy Mts: Turček 9.viii.1970 1♂ 1♀ (*Straka*). **Romania**: Munti Calimani, Lunca Bradului 15 km N (1000 m) 13.vii.1988 1♂ (*Mocek*).

Group 5 – *H. litorea*-group

For a characterization of this group, and a revision of the European species, see Chvála (2005a: 89 and 2008a: 53).

32. *Hilara litorea* (Fallén, 1816)

REFERENCES: Strobl (1892a: 161 as *littorea*), Collin (1961: 668) and Chvála (2005a: 89) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: A widely distributed and common species in Europe, known from central parts of Fennoscandia south to France, the Alpine regions, east to Bulgarian Pirin Mts (1760 m). In warm temperate Europe mainly at higher altitudes and in mountains, sometimes above 2000 m. A characteristic summer and late summer species, mainly in July, August and to the middle of September, although sometimes already in June. Very common in the Alps, correctly recognized by Strobl (1892a, 1893, 1910) in the Austrian Alps, in Ennstaler Alpen, Rottenmanner Tauern and the Seetaler Alpen.

MATERIAL EXAMINED: **Austria:** Styria (Haller Mauern, Gesäuse, Ennstal, Rottenmanner Tauern, Seetaler Alpen); Salzburgland (Gastein); common from 26.vii. to 19.ix. at altitudes about 600-1000 m. **Switzerland:** SG (Unterwasser), GR (Valbella, Zernez, Scuol, Lenzerheide, Grono), TI (Airolo, Angone), VS (Oberwald, Visperterminen), ZH (Sihlbrugg, Glattfelden, Zürich); common from 29.vi. to 10.ix., at altitudes from 350 to 2300 m. **France:** Haute-Savoie, Pormenaz (1700-2200 m) 8.-31.vii.2003 MT 1♂ (*Castella & Speight*).

33. *Hilara pseudosartrix* Strobl, 1892

REFERENCES: Chvála (1997c: 314) – synonymy and redescription, Chvála (2005a: 91) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: A widely distributed species, known from the end of April to the middle of May. In the north from the south of Norway (Chvála, 2005a) and Scotland (Plant, 1998) only, and at scattered localities from the Netherlands and Poland south to the Alpine region and Hungary. Described from the West Carpathians (Velká Fatra Mts) by Straka (1976) as *H. subcalinota*. In the collections often misidentified as *H. calinota* Collin; for instance, Strobl had in his collection under *H. pseudosartrix* a pair of *H. calinota*, collected by him in the Styrian Gesäuse on 16 June. In temperate Europe everywhere rather a rare species, distributed mainly in hilly countrysides, in the south in mountains. In contrast to many other species of the genus *H. pseudosartrix* may be found sometimes far away from water in forest clearings or along foodpaths in deciduous forests where males are swarming, often in large numbers. Apparently an overlooked species maybe because of its very early spring occurrence and its unusual behaviour.

MATERIAL EXAMINED: **Austria:** Styria: Trieben, Graben 28.v. 1♂ (lectotype); Gesäuse 2♂ (all Strobl); Admont, Saugraben (830 m) 27.v.2003 1♂ (*Chvála*). **Switzerland:** ZH: Sihlbrugg (670 m) 25.iv.1994 1♂, 2.v.1994 1♂ (*Rüegg*); Zürich, Katzenssee (440 m) 3.v.1997 3♂; Zürich, Ziegelhütte (460 m) 10.-11.v.1999 5♂; Zürich, Allmend (430 m) 6.v.1998 2♂; Zürich, Zürichberg (650 m) 15.-18.v.1997-98 2♂ 1♀; Zürich, Waldgarten (500 m) 5.-24.v.1996 2♂; Embrach, Haumüli (400 m) 30.iv. 2♂, 5.-25.v.1998 4♂ 3♀ (all *Merz*). VS: Raron, Heidnischbiel (700-770 m) 26.v.1999 1♀ (*Merz*). **Italy:** AO: Aosta, St. Vincent, Salirod (1080 m) 14.v.2006 1♀ (*Haenni*).

34. *Hilara sartor* Becker, 1888

Figs 9-11

SYNONYM: *Hilara sartrix* Becker: Handlirsch (1889), and authors (lapsus).

DIAGNOSIS: A medium-sized, body about 2.5 – 3.5 mm long, uniformly rather light dull grey dusted species, with dull grey occiput, irregularly 2- (anteriorly) to 4-serial (posteriorly) *acr*, clear wings and black haltere. Legs yellowish usually only at base of fore leg, though legs often extensively darkened; ♂ *bt*₁ unusually large and dilated, as long as *t*₁, ♀ *t*₃ simple and slender.

REDESCRIPTION:

Male. Head uniformly dull grey on face, frons and occiput, face not wider than frons below, frons slightly widening above and width as usual in the genus. All setae on head black and fine, the two pairs of ocellar and frontal bristles equally long as upper occipital, all about as long as antennal style. Occiput dull grey, not shining from any point of view, covered with whitish hairs below neck. Antennae black, style long, scarcely shorter than segment 3. Palpi black, silvery-grey pollinose, beneath with fine whitish hairs, but the preapical ventral seta black, about as long as the short labrum which is half-length of head height.

Thorax uniformly dull rather light grey including pleura, somewhat bluish-grey, and scutum practically unstriped. All setae black (including small anterior notopleural setae), *acr* and *dc* fine and small, shorter than antennal style, *acr* almost regularly 2-serial in front, becoming irregularly 3- to 4-serial posteriorly; *dc* 1-serial, scarcely longer, and all rather numerous, about 12 to 13 setae in one row; large marginal setae long and fine, in full number, inner pair of 4 *sc* the longest, but also the *h* and *ih* bristle fairly long.

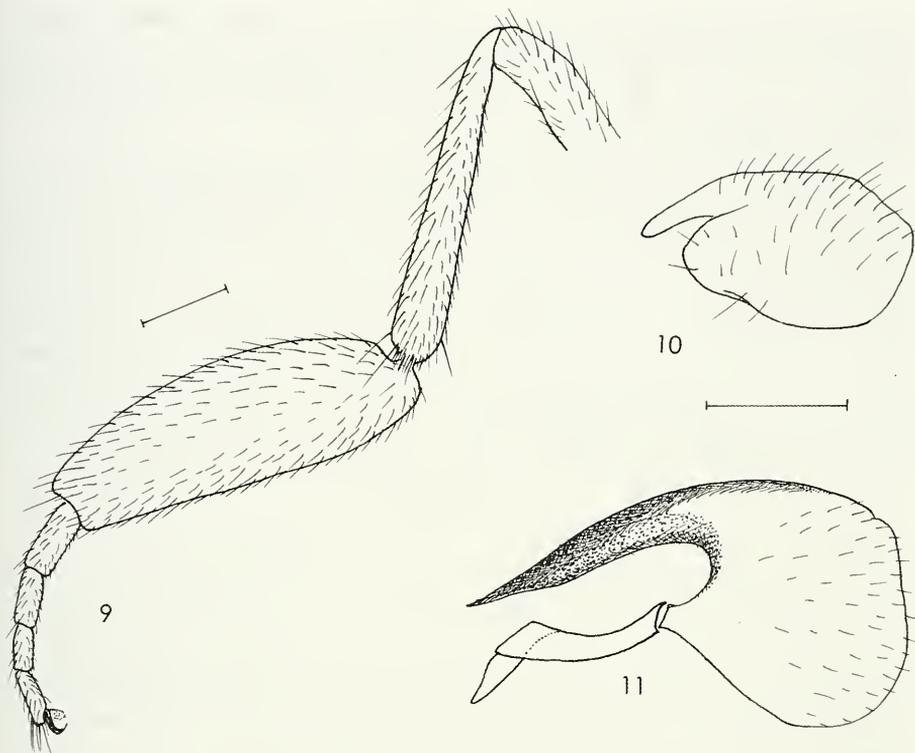
Wings almost clear, faintly brownish infuscated anteriorly towards base, veins brownish-black, a long narrow radial fork, and a distinct black costal bristle. Squamae very pale with white fringes: haltere black, but stalk clearly yellowish.

Legs long and slender, and covered with only sparse, fine long black setae. Legs in general very dark, blackish to blackish-brown, usually *cx*₁ towards tip and base of *f*₁ yellowish, also trochanters are clearly yellow, especially on fore leg, as well as all "knees". All femora very slender, short pubescent, but all with 1 or 2 longer antero-ventral preapical setae, *f*₂ with only 2 or 3 long anterior setae; also tibiae covered with short hairs, only apical setae are longer; *bt*₁ (Fig. 9) unusually large and thickened, as long as tibia, and covered with short hairs only, rest of tarsus much shorter; posterior four tarsi long and very slender, all tarsomeres much longer than deep.

Abdomen uniformly dull grey, concolorous with thorax, covered with rather long, dense, whitish to whitish-yellow hairs, and also fine hind-marginal bristles are very pale. Genitalia (Figs 10-11) small, subshining black and almost bare; hypandrium narrowed and pointed apically, though not as long and slender as in *H. pseudosartrix*, and lateral lamella bears a distinct long terminal process (without apical process in *H. pseudosartrix*).

Length: body 2.6 – 3.5 mm, wing 3.2 – 4.0 mm.

Female. Very much like male in all details, including the pubescence and bristling on head, thorax and legs. Also wings almost clear, with distinct dark veins, a long radial fork, and a faint brownish stigma. Legs often almost uniformly blackish, *cx*₁ scarcely yellow towards tip, and fore tarsus long and slender, two-thirds length of corresponding tibia. Abdomen as in male, similarly light greyish dusted and whitish pubescent, only hind-marginal bristles inconspicuous.



FIGS 9-11

Hilara sartor Becker ♂ (A, Styria, Rottenmanner Tauern, Bösenstein). (9) Fore leg in posterior view. (10) Lateral genital lamella. (11) Hypandrium with postgonite. Scale: 0.2 mm.

Length: body 2.5 – 3.0 mm, wing 3.5 – 3.8 mm.

DIFFERENTIAL DIAGNOSIS: Although *H. sartor* is the only so-called “balloon-fly” in the Palaearctic region, therefore frequently mentioned in the literature (often under the false name *Hilara sartrix* Becker), no redescription after the brief original description of Becker (1888) has been published until now. The species needs comparison especially with the closely related *H. pseudosartrix* Strobl, differing mainly by the dusted grey vertex and occiput (dull black in *H. pseudosartrix*), the blackish-grey palpi (yellow in *H. pseudosartrix*), the uniformly dull bluish-grey scutum and scutellum (with a dark brownish-black pattern in *H. pseudosartrix*), and by the ♂ genitalia, which are particular in *H. pseudosartrix* with their very long, apically narrowed sickle-shaped hypandrium. Both these species possess the unusually enlarged, swollen ♂ bt_1 , often even longer than the corresponding tibia, and t_3 in ♀ is in both species unmodified, simple and slender.

DISTRIBUTION: An endemic Alpine species. A late summer species occurring at suitable biotopes in large swarms of males at altitudes above 1000 m, only exceptionally (Leuk in Switzerland) collected at only 650 m. Although there exists an extensive

literature dealing with its unusual epigamic behaviour at high mountain altitudes, the species has not been fully redescribed and illustrated since its rather brief description of Becker (1888) from Gastein in Austria and the monograph of Engel (1941: 270). The species was often mistakenly named by subsequent authors as *Hilara sartrix* Becker due to the error of Handlirsch (1889).

MATERIAL EXAMINED: **Austria:** Styria: Rottenmanner Tauern, Bösenstein (1750 m) 10.-14.ix.2006 swarms, 23.ix.2006 1♂ 1♀, 1.viii.2007, 2.viii.2003, 18.ix.2004 swarms; Schladminger Tauern, Sölkpass (1900 m) 24.viii.2001 11♀ (all *Chvála*); Donnersbachwald (1600 m) viii-x.1999 MT 1♂ (*Barták*). Tyrol: Obergurgl Ötztal 3.-6.viii.1962 1♂ (*Lindner*); Gastein (No 14733) 1♂ (*Becker*). **Switzerland:** GR: Ausserferrera, Cresta (1300-1670 m) 28.viii.-1.ix.2006 17♂ 25♀; Lenzerheide (2000 m) viii.2000 MT 5♂ 3♀; Lenzerheide, Talstation Rothornbahn (1500 m) 8.ix.2000 1♂ (all *Merz*); St. Moritz 9.viii.1934 2♂ (*de Meijere*); Il Fuorn, W du labo[ratoire] (1780 m) 8.viii.1982 1♀ (*Haenni*). VS: Vispertenminen, Rothhorn (2250 m) 26.viii.2001 1♀ (*Merz & Landry*); Vercorin (1600 m) 26.viii.2007 6♂; Grimselpass, Totesee (2200 m) 8.viii.2006 1♂; Leuk, Finges (650 m) 9.viii.1997 4♂ (all *Haenni*). TI: Bodio, Bidrè (970-1050 m) 14.-26.viii.1988 3♂, (1100-1300 m) 24.viii.1988 1♂ (all *Haenni*). **France:** Haute-Savoie, Pormenaz (1700-2200 m) 8.-31.vii.2003 MT 2♂, 1.-15.viii.2003 MT 8♂ 9♀ (all *Castella & Speight*). **Italy:** Stelvio 7.viii.1909 1♂ (*Oldenberg*).

35. *Hilara galactoptera* Strobl, 1910

REFERENCES: Collin (1961: 666), Chvála (2005a: 99) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: From the British Isles including Scotland, the Netherlands, but not yet found in Scandinavia, south through mild temperate central Europe to France and the Alpine region, where it is a typical species in mountains up to 1000 m. A spring and early summer species, in the Alps mainly in May and June.

MATERIAL EXAMINED: **Austria:** Styria: Gesäuse 5.vi. 3♂ (lectotype and paralectotypes); Admont 2♂ 2♀ (all *Strobl*); Haller Mauern, Ziernitz (680 m) 9.vi.1996 2♂; Oberlaussa (700 m) 24.v.2003 1♂; Hieflau, Waggraben (600 m) 24.v.2003 2♂ 2♀; Admont, River Enns (620 m) 25.v.2003 1♂ 3♀; Admont, Saugraben (830 m) 19.vi.2000 1♂ 1♀ (all *Chvála*). **Switzerland:** BE: Ostermundigen, Rüti (640 m) 24.v.2003 1♂; Mt. Raimeux, Corcelles (650-950 m) 2.vi.2003 1♂ (all *Merz*). ZH: Sihlbrugg (670 m) 2.-14.vi.1994 2♂ 4♀ (*Rüegg*). VS: Branson, Follatères (800 m) 9.vi.2004 1♂ (*Haenni*). **France:** Drôme, Col de Tourniol (1050 m) 26.v.2006 17♂ 2♀ (*Barták*).

36. *Hilara morata* Collin, 1927

REFERENCES: Collin (1961: 652), Chvála (2005a: 100) – description and illustration of male fore leg, hind basitarsus, postabdomen and genitalia.

DISTRIBUTION: Very rare in southern Scandinavia, from the British Isles south to northern Spain (Catalonia), in central parts of Europe south to the Alpine region and eastwards to Romania; only exceptionally common or in large numbers. In temperate Europe for a long period in summer, from June to August, both in lowlands and at higher altitudes.

MATERIAL EXAMINED: **Austria:** Styria: Weissenbach bei Liezen (700 m) 8.vii.2002 1♀; Woerschbach Klamm (650 m) 8.vii.2002 2♂ (all *Chvála*). **Switzerland:** SZ: Gersau, Oberholz (550 m) 13.viii.1981 1♂ (*Rez Banyai*). GE: Cartigny, Moulin de Vert (350 m) 5.vi.2006 5♂ 7♀ (*Merz*). **Italy:** BZ: Bozen, 11.vii.1911 1♂ (*Oldenberg*). **Slovenia:** Julian Alps, Planinska Jama (800 m) 20.vi.2006 1♂ (*Plant*). **France:** Pyrenees, Can Baills, 10 km SW Thuir (610 m) 11.vi.2007 1♀ (*Merz*).

37. *Hilara splendida* Straka, 1976

REFERENCES: Chvála (1999c: 212) – description and illustration of male fore leg, hind basitarsus, postabdomen and genitalia.

DISTRIBUTION: Central European species, known from both lowlands and mountains, in the Alps also rarely above 1000 m. This species, very characteristic by its very narrow frons in male, and the long bristled hind basitarsus, has been known until now only from the Czech Republic, Slovakia, Hungary, the Alpine region, and eastwards to Romania. However, it was recently found also more southwards, in the Greek Peloponnesus at Lakonia, Taiyeto Oros, 8 km WSW Tripl (1100 m) 11.vi.1990 1♂ 1♀ (*Haenni & Dufour*, MHNN). In the Alps from the end of May to the middle of August, but mainly in June.

MATERIAL EXAMINED: **Austria:** Oberösterreich: St. Pankraz, River Steyer (490 m) 24.vi.2002 12♂, 26.vi.2005 1♂, 2.vii.2001 1♂; Rossleithen, River Piessling (650 m) 8.vii.2001 1♂ (all *Chvála*). Styria: Admont (640 m) 13.-15.vi.1997 6♂, 25.-28.vii.1997 21♂ 3♀, 17.vi.2007 1♂, 1.vii.2002 1♀, 11.vii.2008 1♀; Admont, Saugraben (700-780 m) 23.vi.2007 1♂, 28.vi.2005 2♂, 3.vii.2001 and 7.vii.2002 common, 22.vii.2007 2♂; Admont, Kematengraben (850 m) 12.viii.1998 2♂; Gesäuse Eingang, River Enns (620 m) 25.v.2003 1♂, 2.vii.2002 3♂ 2♀; Haller Mauern, Mühlauerbach (750-850 m) 3.vii.2002 1♂, 11.viii.1998 1♂ 1♀; Ennstaler Alpen, Pyhrn, Pyhrnbach (850 m) 30.vi.2002 1♂; Pyhrnpass, Kalkofen (1100 m) 24.vi.2007 1♂; Weissenbach bei Liezen (700 m) 8.vii.2002 7♂ 1♀ (all *Chvála*). **Fürstentum Liechtenstein:** FL: Schaan, Schwabbrünnen (440 m) 7.viii.1997 1♀ (*Merz*). **Switzerland:** ZH: Zürich, Höggerberg (400 m) 18.vi.1996 1♂, (530 m) 9.vi.1998 1♂; Zürich, Ziegelhütte (460 m) 29.vi.1997 3♂ 1♀; Zürich, Waldgarten (460 m) 7.vi.1997 1♂; Embrach, Haumüli (400 m) 11.vi.-10.vii.1997 3♂ 1♀ (all *Merz*). GE: Cartigny, Moulin de Vert (350 m) 5.vi.2006 1♂ (*Merz*). **Slovenia:** Julian Alps, Planinska Jama (800 m) 20.vi.2006 1♂; abor, River abranca (280 m) 15.vi.2006 1♂, (330 m) 3♂; Dsilnica, River Kolpa (240 m) 15.vi.2006 2♂ (all *Plant*). **France:** Pyrenees, Can Baills, 10 km SW Thuir (610 m) 11.vi.2007 4♂ 2♀ (*Merz*); Savoie, Brides 15.-20.vii.1927 1♂ (*Naville*).

38. *Hilara tenella* (Fallén, 1816)

REFERENCES: Chvála (2005a: 104) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: Very rare in the north of Europe, although described from Sweden; the province Skåne in southern Sweden is still the only Scandinavian locality known; rare in the Netherlands and on the British Isles, but abundant along large rivers in central parts of Europe from Germany south to the Mediterranean (Chvála, 2008a: 60). Only at lower altitudes in Switzerland, up to 650 m, for a long period from the end of May to the beginning of August, though mainly in June.

MATERIAL EXAMINED: **Switzerland:** BE: Gampelen (430 m) 22.vi.1972 1♂ (*Haenni*). TI: Gordola, Bolle (220 m) 17.-19.vi.1995 1♂ 1♀ (*Merz & Bächli*), (205 m) 6.vii.2001 1♂ 2♀ (*Merz*). VS: Baltschieder, Kumme (650 m) 24.vi.2000 2♂; Leuk, Rotafen (620 m) 10.viii.1997 1♂, Leuk, Platten (625 m) 30.v.2002 1♂ (all *Merz*), same locality 8.vi.2001 1♂ 1♀; Leuk, Pfynwald (600 m) 7.vi.2001 1♂ (all *Merz & Landry*). **France:** Pyrenees, Ariège, Ax-les-Thermes (750 m) 8.vii.1990 1♂ 2♀ (*Barták*).

39. *Hilara platyura* Loew, 1873

Fig. 13

REFERENCES: Collin (1961: 660), Chvála (2005a: 93) – description and illustration of male fore leg, postabdomen, genitalia, and wing venation.

DISTRIBUTION: A widely distributed species in Europe, from England and southern Scandinavia south to France, and along the Mediterranean coast east as far as the Turkish Antalya Province (Chvála, 2008a: 64). A typical summer species, everywhere rare, in temperate Europe from June to August, absent in high mountains.

MATERIAL EXAMINED: **Switzerland:** SG: Betlis, Walensee (450-520 m) 24.-25.vi.1995 1 ♂ 3 ♀ (*Merz & Eggenberger*). GE: Bernex, Saule (440 m) 19.vi.2008 1 ♀ (*Merz*); Corsier-Port, vitre véranda, 24.vi.2003 1 ♀ (*Besuchet*).

40. *Hilara leukensis* sp. n.

Figs 12, 14-16

DIAGNOSIS: Small, body about 2.5 mm long, light greyish dusted species with dull grey frons and occiput, *acr* 4-serial, small and numerous, wings clear, abdominal pubescence and haltere pale. Very much like *H. ternovensis* Strobl, 1898 (= *H. griseifrons* Collin, 1927), but haltere clear yellow, and legs devoid of distinct bristles. Fore basitarsus in ♂ distinctly dilated, and hind tibia in ♀ unmodified, simple and slender.

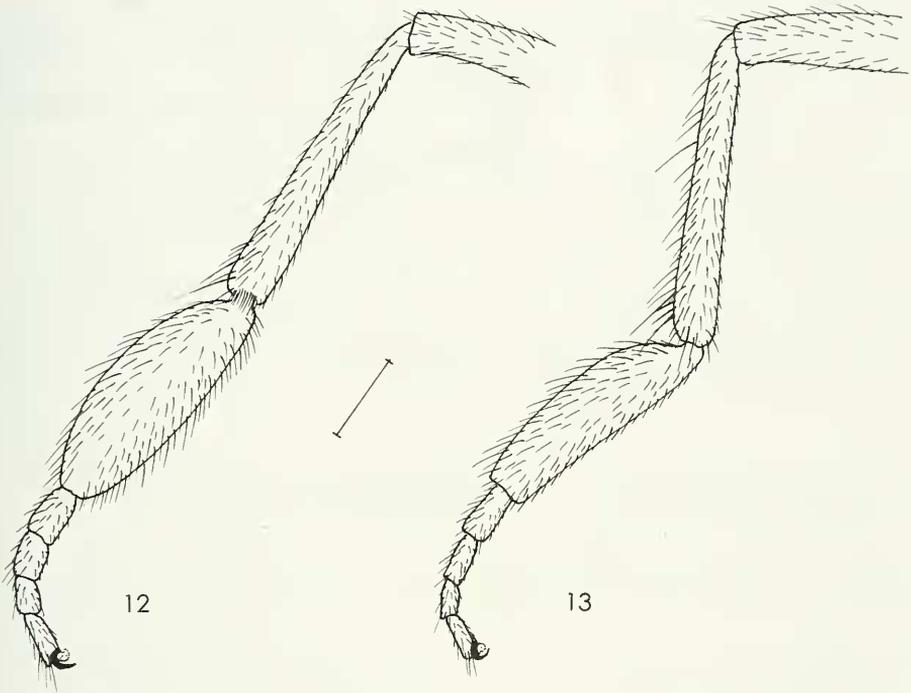
DESCRIPTION:

Male. Head uniformly dull, rather light grey dusted, occiput not black from any point of view. Frons and face wide, large bristles on head black, long and rather thin: a pair of ocellar and frontal bristles equally long, as long as a ventral preapical bristle on palpus, upper occipital postocular bristly hairs and vertical bristles nearly of half length. Hairs on lower part of occiput below neck shorter and paler, brownish. Antennae black, style long, of about 3/4 length of 3rd segment. Palpi black, densely light grey dusted, ventrally with small, fine dark hairs, a long thin preapical bristle, and another shorter one near base. Labrum short, scarcely half as long as head is high.

Thorax dull slate greyish, although scutum when viewed from in front distinctly brownish, when viewed from above greyish on a broad middle stripe and on scutum, and there are 2 very indistinct, narrow darker lines between rows of *acr* and *dc* bristles; former widely regularly 4-serial, latter 1-serial, all small and fine, numerous, *dc* ending in 2 longer prescutellar pairs. Other large thoracic setae black but very fine. *h* and *ih* setae small, as long and strong as a lateral pair on pronotum, *ph* seta longer and stronger, not much shorter than 2 *ntpl*, *sa* and *pa* smaller, and 2 pairs of *sc*, inner pair very long, at least twice as long as outer pair. Prothorax (sides of prosternum and episterna) practically bare, and only a fine bristle on each side of pronotum. Spiracles blackish.

Wings quite clear, iridescent, practically no stigma, and all veins dark; radial fork of usual shape, not at least acute as in *H. platyura*. Costal bristle black, as long and strong as a *pa* seta. Squama dirty grey with blackish posterior margin, fringes long, pale. Haltere uniformly pale yellow, only extreme base of stalk brownish.

Legs uniformly black, only "knees" narrowly contrasting whitish; coxae dull grey like thoracic pleura, covered with pale hairs, the sparse longer bristling darkened. Otherwise legs slightly subshining, with very indistinct greyish pollinosity, and all parts covered with short inconspicuous hairs, except for 3 to 4 anterior bristles on *f*₂: tibiae also without dorsal or preapical bristles. Tarsi with all tarsomeres at least slightly longer than deep, short pubescent, *bt*₁ (Fig.12) very enlarged, at least three-quarters length of tibia, and usually in dried pinned specimens flattened, and consequently more than twice as deep as tibia at tip.



FIGS 12-13

Hilara leukensis sp. n. ♂ (CH, VS: Leuk, Pfynwald, paratype). (12) Fore leg in anterior view. - *Hilara platyura* Loew ♂ (CZ, Moravia, Lednice). (13) Fore leg in posterior view. Scale: 0.2 mm.

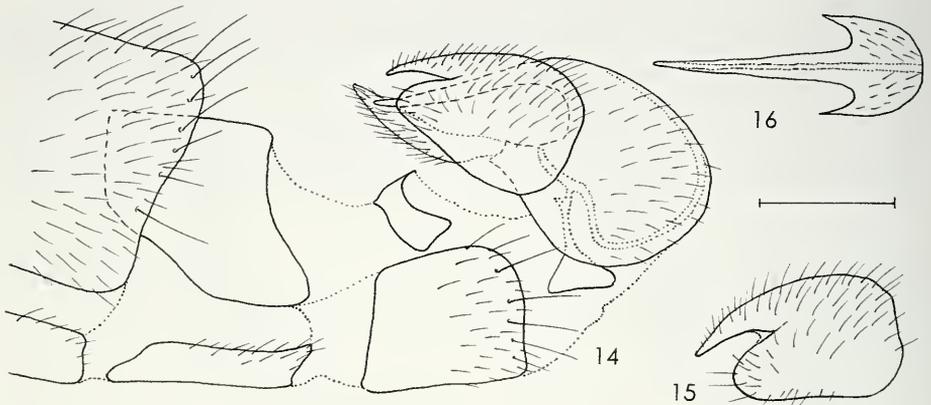
Abdomen when viewed from above darker than thorax, more brownish black coloured, dull, fine greyish dusting denser on sterna only; terga short but densely pale pubescent, darker brown on posterior segments, hind-marginal bristles black, well-developed on all terga, fine and fairly long, though not longer than following segment is wide. Genitalia (Figs 14-16) concolorous with abdomen, covered with dense, minute dark hairing; hypandrium small, somewhat subshining, apical part long and simple, very slender (Fig. 16).

Length: body 2.2. - 2.8 mm, wing 3.0 - 3.5 mm, holotype body 2.8, wing 3.3 mm.

Female. Head, thorax and wings as in male. Legs similarly subshining black except for paler "knees" and dull grey coxae, unmodified, and devoid of distinct bristles as in male; fore basitarsus very narrow, half as long as tibia, and hind tibia quite simple and slender. Abdomen similarly dull brownish black, though subshining in some lights, pubescence pale, dense and short, hind-marginal bristles absent; last sternum and cerci dull.

Length: body 2.3 - 2.6 mm, wing 3.0 - 3.3 mm.

DIFFERENTIAL DIAGNOSIS: Alpine species, resembling in many respects the habitually similar *H. ternovens* Strobl (= *H. griseifrons* Collin), both in the size, general



FIGS 14-16

Hilara leukensis sp. n. ♂ (CH, VS: Leuk, Pfywald, paratype). (14) Postabdomen (macerated). (15) Lateral genital lamella. (16) Tip of hypandrium in dorsal view. Scale: 0.2 mm.

shape, and colouration. However, the male of *H. ternovensis* possesses long black bristles on t_1 dorsally, and both dorsally and anteroventrally on t_3 . The hypopygium differs in the broad tip of the hypandrium, and a blunt-tipped dorsal lamellar process; t_3 in female in *H. ternovensis* is distinctly dilated and laterally compressed. However, the simplest key characters of *H. ternovensis* are the black abdominal pubescence and black haltere.

Holotype ♂: **Switzerland**, VS: Leuk, Pfywald (614100/290070), 6.vi.2001 (600 m), leg. Merz & Landry (MHNG).

Paratypes: 6 ♂ and 3 ♀ with the same locality and date as holotype; 1 ♂ with the same locality, 6.vii.1997 (630 m), leg. B. Merz (MHNG, 1 pair in coll. Chvála, UMO).

DERIVATIO NOMINIS: The species is named after the Swiss type locality Leuk-Pfywald.

DISTRIBUTION: Known up to now only from a central Alpine valley in the canton Wallis.

41. *Hilara nigrocincta* de Meijere, 1935

REFERENCES: Chvála (2005a: 94) – description and illustration of male fore leg, male and female hind leg, and male postabdomen with genitalia.

DISTRIBUTION: A species of temperate and warm Europe, from the Netherlands, where it is common along large rivers, south through central parts of Europe including the Alpine region to the Mediterranean. From the end of May to the middle of August, mostly in lowlands at the border of large rivers.

MATERIAL EXAMINED: **Switzerland**: GE: Cartigny, Moulin de Vert (470 m) 4.vi.2001 1 ♀ (Merz & Eggenberger); Corsier-Port, vitre véranda 1.-31.vii.2008 1 ♀ (Besuchet). VS: Baltschieder, Kumme (650 m) 24.vi.2000 4♂; Leuk, Pfywald (630 m) 6.vii.1997 1♂; Leuk, Rotafen (620 m) 10.viii.1997 1♀ (all Merz); Branson, Follatères (460-750 m) 9.vi.2004 (Merz

& *Haenni*). ZH/LU: Maschwroanden, Rüss-Spitz (380 m) 20.vi.1995 1♂ 1♀ (*Merz & Bächli*). TI: Biasca, Loderio (350 m) 8.vii.1997 1♀ (*Merz*). **France**: Pyrenees, Ariège, Ax-les-Thermes (750 m) 8.vii.1990 1♂ 1♀ (*Barták*).

42. *Hilara ternovens* Strobl, 1898

SYNONYM: *Hilara griseifrons* Collin, 1927

REFERENCES: Collin (1961: 664 as *H. griseifrons*), Chvála (2004: 97 as *H. griseifrons*) – description with illustration of male fore leg, female hind tibia, and male genitalia. Chvála (2008a: 70) – lectotype designation and synonymy.

DISTRIBUTION: This species was for a long time well known to dipterists as *Hilara griseifrons* Collin. Uncommon in northwest Europe (England, Norway), but fairly common from the Netherlands and northern Germany south to France, Switzerland, Slovenia, Bosnia and Herzegovina, and Bulgaria (Chvála, 2008a). In the Alpine regions at lower altitudes. For a long period from June to the beginning of September.

MATERIAL EXAMINED: **Switzerland**: GE: Corsier-Port, vitre véranda 2.-6.vii.2003 1♂, vi.2005 4♂ 3♀, 1.-31.vii.2003 1♂, 1.-30.vi.2006 2♂ 1♀, 20.-30.vi.2008 5♂ 4♀ (all *Besüchet*). GR: S. Vittore, Rebberg (290 m) 8.vii.1997 1♂, same locality (300 m) 4.viii.1997 1♂ 1♀ (*Merz*). TI: Biasca, Loderio (350 m) 17.vi.1995 1♂ (*Merz & Bächli*), 8.vii.1997 3♂, 4.viii.1997 1♂ (all *Merz*). **France**: Gard, Dourbies, La Rouvière, Crouzoulous (970 m) 15.vii.2005 1♂ (*Haenni*).

43. *Hilara albipennis* von Roser, 1840

REFERENCES: Collin (1961: 669), Chvála (2005a: 107) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: From the British Isles and along the Baltic coast including southern Scandinavia south to the Alpine region. In central temperate Europe an early spring species, in April and May. Uncommon in lowlands, more abundant at higher altitudes and in mountains (Krkonosé Mts, the Alps). On alpine meadows and along streams on flowering willows in spring, sometimes swarming in large numbers.

MATERIAL EXAMINED: **Austria**: Styria: Admont (640 m) 28.iv.-14.v.2008 mass occurrence; Admont, Saugraben (700 m) 19.v.2003 2♂ 1♀; Arding, Ennstal (636 m) 3.v.2004 14♂ 2♀; Gesäuse Eingang (620 m) 4.v.2008 common; Haller Mauern, Buchauer Sattel, Grossbuchau (850 m) 9.-13.v.2008 common; Mühlau (750 m) 18.v.2003 1♀; Kaiserau (1100 m) 11.vi.1997 1♀ (all *Chvála*). **Switzerland**: ZH: Embrach, Haumüli (400 m) 29.vi.1998 1♂ (*Wolf*), 30.iv.1998 1♂ (*Merz*); Pfannenstiel (600-850 m) 21.v.1995 1♂; Zürich, Waldgarten (450 m) 24.v.1996 1♀; Zürich, Katzensee (440 m) 24.iv.1997 1♂, 3.v.1997 2♀; Zürich, Allmend (430 m) 6.v.1998 1♀ (all *Merz*).

Group 6 – *H. intermedia*-group

For a characterization of this group, and a revision of the European species, see Chvála (2002b – as *Hilara* “*quadrivittata*” group), and Chvála (2005a: 109 and 2008a: 72).

44. *Hilara intermedia* (Fallén, 1816)

REFERENCES: Strobl (1892a: 139 as *H. pubipes* Loew), Collin (1961: 585), Chvála (2005a: 110) – description and illustration of male fore and mid leg, female hind tibia, and male genitalia.

DISTRIBUTION: A common species in northern Europe including Lapland, on the British Isles especially in Scotland, not yet found in the lowlands of the Netherlands. Locally very common in the Alpine region, but rare in lowlands of temperate central parts of Europe south to the Alps; recently found also in the Romanian Transylvanian Alps. Apparently its distribution is boreomontane. An early summer species, in the Alps mainly in June and July, in lowlands already in May, high in mountains as late as August; Strobl (1893: 90) recorded it under the name *H. pubipes* from the Styrian Ennstaler Alpen and Rottenmanner Tauern.

MATERIAL EXAMINED: **Austria:** Styria: Rottenmanner Tauern, Hohentauern 1.viii.1891 and Scheiplalm 13.viii. 4♂; Admont, Lichtmessberg 7.-11.viii. 4♂ (all *Strobl*); Schladminger Tauern, Donnerbachwald (1600 m) 5.viii.1995 1♂ (*Barták*); Schladming, Untertal (1000 m) 6.vii.2001 7♂ 1♀, Kleinsölk (1000 m) 7.vii.2001 1♀; Haller Mauern, Mühlau (750 m) 19.vi.2007 swarms, Esslingbach (900 m) 7.vii.2002 swarms; Frauenberg, Ennstal (680 m) 26.vi.2002 swarms; Ziernitz near Admont (730 m) 30.vi.2005 and 4.vii.2001 swarms; Gesäuse, Johnsbach (1050 m) 5.vii.2002 1♂; Kaiserau (1100 m) 22.vii.1997 and 1.vii.2002 swarms; Rottenmanner Tauern, Hohentauern, Weber Teich (1300 m) 5.vii.2001 swarms (all *Chvála*). East Tyrol: Liezener Dolomiten, Obertilllach 1♂ (*Frey*). **Switzerland:** TI: Biasca, Loderio (350 m) 8.vii.1997 2♂ 1♀; Gordola, Verzasca-Ufer (205 m) 15.v.2006 3♂ 2♀. GR: S. Vittore, Rebberg (290 m) 2.vi.1997 1♂, 8.vii.1997 1♀ (all *Merz*). **France:** Pyrenees, Ariège, Ax-les-Thermes (750 m) 8.vii.1990 1♂ 1♀ (*Barták*).

45. *Hilara tetragramma* Loew, 1873

REFERENCES: Chvála (2002b: 269) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: Mountain species, known from the Polish, Slovak and Romanian Carpathians, and from the Alps. A spring species, in May and June. In the Alps usually at lower warmer sites, at altitudes to 700 m only.

MATERIAL EXAMINED: **Switzerland:** TI: Biasca, Loderio (300-350 m) 2.vi.1997 8♂ 6♀; Gordola, Verzasca-Ufer (205 m) 15.v.2006 1♂. VS: Baltschieder, Rotten-Ufer (650 m) 17.v.1996 1♂ 1♀; Leuk, Bahnhof (625 m) 15.v.2000 1♂ (all *Merz*).

46. *Hilara hirta* Strobl, 1892

REFERENCES: Collin (1961: 595), Chvála (2005a: 112) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: This species was described from the Alps, but it is widely distributed in Europe from Fennoscandia including Lapland (where it is rare), south through temperate Europe to the Alpine region and Bulgarian Pirin Mts (2200 m). Recently Chvála (2008a: 73) recorded this species also from Israel. A late summer and autumn species, from August to October. In the Alps commoner at high altitudes. Strobl (1892a) described it from the Carinthian Villach collected by Tief, Becker collected it in Gastein (Salzburg), and later Strobl (1893: 91) mentioned another ♂ collected by him at the end of August at Mühlau near Admont; all specimens are preserved in the Strobl Collection in Admont. see Chvála (2004:130).

MATERIAL EXAMINED: **Austria:** Oberösterreich: Totes Gebirge, Hinterstoder (650 m) 23.viii.2001 1♂ (*Chvála*). Styria: Admont (640 m) 1.ix.1892 1♂ (*Strobl*); Haller Mauern, Mühlauerbach (1000 m) 25.viii.1999 3♂ 5♀, Esslingbach (900 m) 16.ix.2005 and 19.ix.2004 common; Oberlaussa, Polzambach (950 m) 25.viii.2001 3♂ 2♀; Rottenmanner Tauern,

Edelrautehütte (1725 m) 10.ix.2006 1♂, Bösenstein, Scheibelsee (1750 m) 15.ix.2005 1♂, 18.ix.2004 ♀ swarm (all *Chvála*). Salzburgland: Gastein 7.ix. 1♀ (*Becker* syntype); Obertauern, Grünwaldkopf (2000 m) 26.viii.1999 1♂ (*Chvála*). **Switzerland:** GR: Ausserferrera (1300 m) 11.ix.1994 1♀ (*Merz & Eggenberger*), same locality (1325 m) 28.-30.viii.2006 2♂ 7♀; Ausserferrera, Cresta (1300-1670 m) 1.ix.2006 1♀; S. Bernardino 31.viii.2006 1♀ (all *Merz*); Laax vii.-viii.1892 1♂; Bad Pignia, Andeer 12.ix.1913 1♂ (all *Escher-Kündig*). VS: Sierre 10.x.1886 1♂, 12.x.1887 2♂ (*Escher-Kündig*). UR: Unterschächen (1060 m) 25.viii.1997 1♂ (*Merz*). VD: Bex. Vallon de Nant (1580-1740 m) 8.x.1995 1♀ (*Haenni*).

47. *Hilara brevistriata* sp. n.

Figs 17-19

DIAGNOSIS: A small, dull grey species, body generally only about 2.5 mm long, but the clear wings longer. All setae and hairs on body and legs uniformly black. Frons and occiput dull velvety black, scutum with 4 shifting black stripes coalescing in posterior view; *acr* 2-serial, long and distinct, thoracic marginal setae fine but long; haltere black. Legs uniformly black, long and slender, also tarsi including ♂ *bt*₁ very long, ♀ *t*₃ slender and only very slightly curved, and all parts of legs covered with only short hairs and a few short setae.

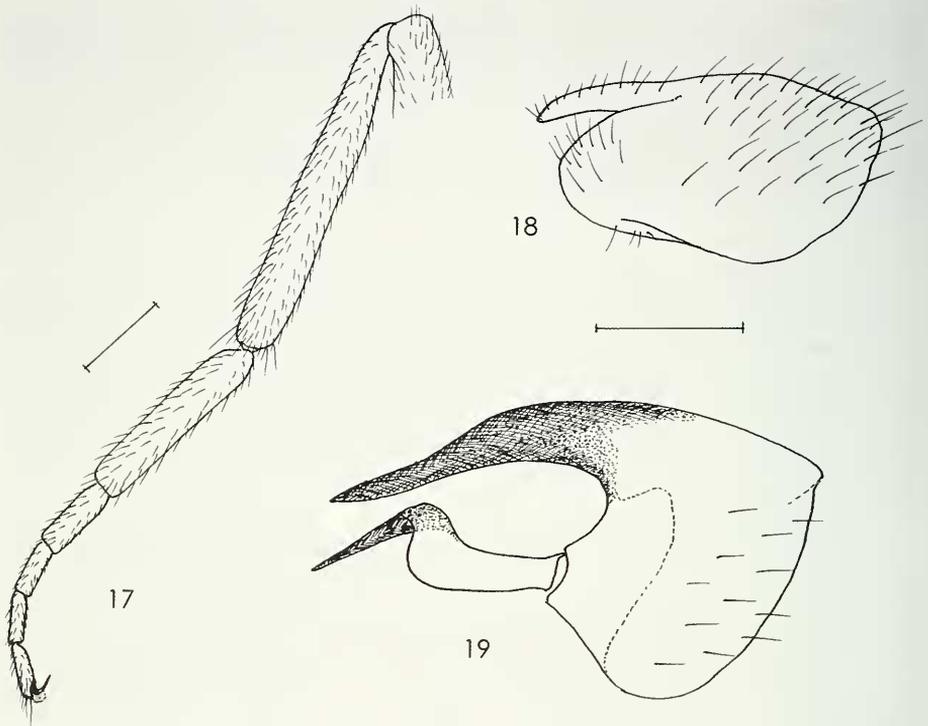
DESCRIPTION:

Male. Head dull velvety black on a wide frons and occiput, only the wide square-shaped face more greyish-black. All setae on head black and very long, the 2 pairs of equally long ocellar and frontal bristles the longest, longer than antennal segment 3 without style. Antennae black, style fairly long and not clearly thickened, about 2/3 length of segment 3. Palpi small, black, covered with several long black setae. Labrum about half as long as head is high, labium often porrect, and then much longer.

Thorax dull grey on pleura, more brownish-grey on scutum, prescutellar depression when viewed from above clearly chestnut-brown; when viewed from in front scutum with 2 dull black stripes between the rows of bristles, in dorsal view with 4 stripes, the lateral ones broader and larger, but in posterior view the lateral stripes still much broadened, and the central 2 stripes alter into a single black line on *acr* setae, and the space between *acr* and *dc* becomes light brownish as in *H. hirta*. All thoracic hairs and setae black, *acr* narrowly 2-serial, *dc* 1-serial, all fairly long, at least as long as the long antennal style; marginal bristles all fine but very long, about as long as the pairs of ocellar and frontal setae on head, including *h* seta; 6 *sc* setae, the inner 2 pairs very long, outer pair of half length. Pronotum with a single black seta on each side, otherwise prothorax practically bare; thorax is characteristically humped in this species, with head partly covered by thorax and, therefore, also a small size of the body in general.

Wings long, clear, with contrasting black veins and a long radial fork, a distinct dark stigma, and a long black costal seta. Squama dark grey, fringes blackish, or nearly light greyish in some light. Haltere completely black, including base of stalk.

Legs long and slender, uniformly black and somewhat subshining, except for dull grey coxae; *cx*₁ at tip with several strong black setae; *f*₁ posteriorly with a row of rather dense setae nearly as long as femur is deep, otherwise femora short pubescent, except for the usual anterior row of long setae on *f*₂, and a few slightly longer, fine anteroventral setae on *f*₃ before tip; *t*₁ (Fig. 17) covered with only short hairs, similarly



FIGS 17-19

Hilara brevistriata sp. n. ♂ (CH, TI: Magadino-Quartino, paratype). (17) Fore leg in posterior view. (18) Lateral genital lamella. (19) Hypandrium with postgonite. Scale: 0.2 mm.

like the unusually long and slender bt_1 and following tarsomeres on fore leg; posterior four tibiae slender and covered with only short indistinct hairs, but t_3 with 7-8 fine dorsal setae at most as long as tibia is deep.

Abdomen uniformly dull blackish-grey, rather densely short black pubescent, hind-marginal bristles long. Genitalia (Figs 18-19) fairly long, dull greyish-black like abdomen, but the long pointed apical half of hypandrium and apically very narrowed postgonites (often in a form of small spikes protruding up) distinctly shining black. The simple, and only short pubescent terminal process of lateral lamella clearly shows a close relationship of this species with the autumn species of *H. hirta* complex.

Length: body 2.3 – 2.9 mm, wing 3.5 – 4.2 mm, holotype body 2.5 mm, wing 3.8 mm.

Female. Very much like male, even the long bristling on head and thorax as in male, and wings practically clear as well. Legs long and slender, f_1 posteriorly with only an indication of the dense posterior bristling; t_3 long and only indistinctly thickened, much narrower than the corresponding femora, very slightly curved, rather undulating at middle, and the dorsal setae smaller than in male.

Length: body 2.2 – 3.0 mm, wing 3.0 – 3.6 mm.

DIFFERENTIAL DIAGNOSIS: Superficially, this species resembles the early spring species *H. brevivittata* and *H. bistriata*, which both have a shorter and stouter antennal style, shorter setae on scutum, wing squama with pale fringes, different ♂ genitalia with the circular and ventrally spinose terminal process on lateral lamella, and t_3 in ♀ is thickened and curved, as wide as corresponding femur; *H. brevivittata* has the similarly shifting black pattern on scutum, but it has much shorter and long pubescent legs, whereas *H. bistriata* has similar long slender legs with long tarsi, but the 4 black stripes on scutum are well visible even in posterior view. The same black pattern on scutum with partly coalescing black stripes when viewed from behind is present also in a French coastal, still undescribed species (differing by the yellow haltere and long pubescent and bristled short stouter legs, Chvála, in prep.), and in the Alpine *H. luteihalterata* sp. n. (but legs and abdomen are whitish pubescent).

It is evident, however, that although this early spring species shares many common characters with the two above discussed spring species of the *H. brevivittata* complex, based on the structure of male genitalia (the long simple terminal process of lateral lamella), *H. brevistriata* belongs to the *H. intermedia* complex of species sensu Chvála (2005a). It is closely allied to the two late autumn species, *H. hirta* Strobl and *H. hirtella* Collin, 1927 (see Chvála, 2005a: 114) having the same thoracic pattern with shifting black stripes, simple long slender legs devoid of distinct pubescence and bristles, and especially the structure of male genitalia is very similar. In addition to the very late summer occurrence, the larger size, dull grey occiput, yellow haltere, and the whitish pubescent abdomen may easily differentiate both these species from *H. brevistriata*.

Holotype ♂: **Switzerland:** TI: Magadino-Quartino 205 m, 2.iv.2007 / 2, leg. B. Merz (MHNG).

Paratypes: 13♂, 10♀ with the same data (MHNG, 4♂ and 2♀ UMO). **Austria:** Styria: Admont, Gesäuse Eingang, Enns River 620 m, 18.v.2003 1♀; Admont, Eichelau-Hall, Enns River 640 m, 22.v.2003 2♀, all leg. M.Chvála (UMO).

DERIVATIO NOMINIS: The species epithet is a combination of names of two closely similar spring Alpine species, *Hilara brevi-vittata* Macquart and *H. bi-striata* Zetterstedt.

DISTRIBUTION: A species of lower parts of southern Switzerland and the Austrian Alps, at altitudes about 200 – 650 m, in April and May.

48. *Hilara beckeri* Strobl, 1892

REFERENCES: Collin (1961: 592), Chvála (2005a: 117) – description and illustration of male fore leg, female hind tibia, and male genitalia.

DISTRIBUTION: Practically throughout Europe, from southern Fennoscandia to the Mediterranean. In temperate Europe a common species in lowlands. It occurs also at higher altitudes, in the Alps up to above 1000 m, but not at least a “mountain species”. A typical summer species, for a long period from May to the beginning of September, but common especially in July and August, though in lowlands of Switzerland (GE: Bernex) already at the end of April.

MATERIAL EXAMINED: **Austria:** Oberösterreich: St. Pankraz, River Steyer (490 m) 26.vi.2005 1 ♀. Styria: Admont (640 m) 8.vi.1996 2 ♀, 4.-7.vii.2006 5 ♀, 11.vii.2008 1 ♀ (all *Chvála*); Gesäuse, an Ennsufer Fels (620 m) 14.viii. 1 ♂ (lectotype), 1.viii.1881 1 ♀, 28.v. 1 ♀; Kalbling 14.viii. 1 ♀ (all *Strobl*); Gesäuse, Kaiserau (1100 m) 7.viii.1998 1 ♀ (*Chvála*). **Switzerland:** BE: Jura Schächental 2.vi.1963 1 ♂ (*Keiser*); Rubigen 26.v.1997 2 ♂ 1 ♀ (*Keller*). ZH: Zürich, Höggerberg (530 m) 17.vi.1997; 1 ♀; Zürich, Allmend (430 m) 6.v.1998 1 ♂ (all *Merz*); Embrach, Haumüli (400 m) 2.-19.vi.1998 2 ♀ (*Wolf & Merz*). TI: Biasca, Loderio (350 m) 17.vi.1997 1 ♂ (*Merz & Bächli*); 2.vi.1997 1 ♂, 17.vi.1995 1 ♂; Gordola, Verzasca-Ufer (205 m) 15.v.2006 1 ♂ (all *Merz*). GE: Chaney, Vers Vaux (335 m) 1.vi.2002 1 ♂; Bernex, Chante-Merle (415 m) 16.v.1999 1 ♂; Bernex, Signal (500 m) 30.iv.2007 1 ♀; Cartigny, Moulin de Vert (350 m) 5.vi.2006 1 ♀ (all *Merz*). **Slovenia:** Planinska Jama (800 m) 20.vi.2006 2 ♀; Gasparci, River Kolpa (310 m) 15.vi.2006 1 ♂ 1 ♀; River Čabarca (280-330 m) 15.vi.2006 2 ♂ 2 ♀; Spodnja Bilpa, River Kolpa (300 m) 15.vi.2006 7 ♂ 4 ♀ (all *Plant*). **France:** Gard, Dourbies, La Rouvière, Crouzoulous (970 m) 15.vii.2005 2 ♀ (*Haenni*).

49. *Hilara fuscipes* (Fabricius, 1794)

REFERENCES: Strobl (1892a: 144 as *H. carinthiaca* Strobl), Collin (1961: 590), Chvála (2005a: 115) – description and illustration of male fore leg, female hind tibia, male genitalia and postabdomen.

DISTRIBUTION: Widely distributed in Europe, from the British Isles and southern Scandinavia (Denmark and south Sweden) to the Mediterranean (France, Bosnia and Herzegovina). In central temperate Europe locally common. It occurs for a long period from May to August, both in lowlands and at lower altitudes in mountains, for instance in the Czech Šumava Mts up to 600 m. Strobl (1892a) described it as *Hilara carinthiaca*, but later recorded it (Strobl 1893: 91; 1898: 206) under the correct name *H. fuscipes* from the Styrian Gesäuse and Admont. It is surprisingly rather a rare species in the Alpine region.

MATERIAL EXAMINED: **Austria:** Lower Austria: Seitenstetten 1 ♀ (*Strobl*). Oberösterreich: Purgstall 14.vi.1971 1 ♀ (*Ressl*). Styria: Gesäuse viii. 1 ♂ 1 ♀ (*Strobl*). **Switzerland:** LU: Altbüron (530 m) 24.vi.1994 1 ♂ (*Merz*). ZH: Embrach, Haumüli (400 m) 11.vi.1997 1 ♂ 1 ♀ (*Merz & Zulliger*), 19.vi.1998 1 ♀ (*Merz*). **France:** Pyrenees, Ariège, Ax-les-Thermes (750 m) 8.vii.1990 2 ♀ (*Barták*); Gard, Dourbies, 2 km SSE. rive du Crouzoulous (855 m) 21.vii.2009 1 ♂ (*Haenni*). **Slovenia:** Julian Alps, Planinska jama (800 m) 20.vi.2006 1 ♀; Spodnja Bilpa, River Kolpa (300 m) 15.vi.2006 1 ♂; River Čabranca (330 m) 15.vi.2006 12 ♂ 1 ♀ (all *Plant*).

50. *Hilara quadrula* Chvála, 2002

REFERENCES: Chvála (2005a: 119) – description and illustration of male mid tibia, female hind leg, and male genitalia.

DISTRIBUTION: A continental species known from Denmark and southern Sweden south to France; a lowland spring species, mainly in May and June. In warm temperate Europe absent in mountains, although in the south, for instance in southern France, preferring higher altitudes and where it may be found already in April. For a long time not distinguished from the following species, *H. quadrifasciata*, and generally the two species were misquoted under the common name *H. quadrivittata* Meigen, a younger synonym of *H. fuscipes* (Fabricius). Common in lowlands of the Czech Republic, though less common towards the south, for instance not yet found in Austria, but not rare in Swiss and French lowlands.

MATERIAL EXAMINED: **Switzerland:** VS: Sierre 14.v.1888 1♀ (*Huguenin*); Baltschieder, Rotten-Ufer (650 m) 17.v.1996 1♂ (*Merz*). ZH: Zürich, Katzensee (440 m) 3.v.1997 1♂ 1♀. TI: Biasca, Loderio (350 m) 2.vi. 1♂, 8.vii.1997 1♂ (all *Merz*). GR: S.Vittore, Rebberg (290 m) 2.-8.vii.1997 1♂ 4♀ (*Merz*). **France:** Gard, Dourbies (1000-1040 m) 15.iv.1995 1♀ (*Haenni*).

51. *Hilara quadrifasciata* Chvála, 2002

REFERENCES: Collin (1961: 588 as *H. quadrivittata* Meigen, 1822), Chvála (2005a: 120) – description and illustration of frons, male fore leg and mid tibia, female hind leg, and male genitalia.

DISTRIBUTION: A species of cold and temperate Europe, in comparison with the preceding *H. quadrula* widely distributed throughout Fennoscandia and on the British Isles. In temperate Europe common also at higher altitudes, for instance in the Czech Šumava Mts frequently at about 800 m, but clearly of later occurrence, mainly in June and July. Towards the south only to the Alpine region, unknown in the Mediterranean. In the Austrian Alps fairly common as well above 1000 m, but not yet recorded from Switzerland and France.

MATERIAL EXAMINED: **Austria:** Styria: Admont (640 m) 11.v.2007 1♂, 8.vi.1996 swarms; Gesäuse Eingang, River Enns (620 m) 25.v.2009 1♂; Frauenberg, Ennstal (680 m) 14.vi.1997 1♀; Ennstaler Alpen, Unterlaussa (700 m) 14.vi.1997 1♀; Rottenmanner Tauern, Hohentauern, Weber Teich (1200 m) 5.vii.2001 swarm (all *Chvála*). Salzburgland: Schladminger Tauern, Obertauern, Tweng (1200 m) 17.vi.2000 2♂ (*Chvála*).

52. *Hilara pilipes* Zetterstedt, 1838

REFERENCES: Chvála (2005a: 128) – description and illustration of male fore and mid leg, and genitalia.

DISTRIBUTION: Northern species, common in the north of Fennoscandia including Lapland and Russian Kola Peninsula, south to the Baltic coast. In the continent only at scattered localities and very rare (Netherlands, Poland), but surprisingly not uncommon in the region of Berlin (as *H. anomala* Loew, 1840). Recently, it has been found in central Europe, in the Czech Krkonoše Mts (Riesengebirge), and it may have a boreomontane distribution and will be found also at other sites, for instance the Alps. So far, all published records of *H. pilipes* from the Austrian Alps refer to other, morphologically similar species. A spring and early summer species, from the end of April to July.

MATERIAL EXAMINED: **Czech Republic:** Krkonoše Mts, Labská louka (1350 m) 23.-26.v.2001 PT 2♂ (*Vaněk*).

53. *Hilara tanychira* Strobl, 1892

REFERENCES: Chvála (2004: 117, 2008b: 242) – type specimens, synonymy.

DIAGNOSIS: A small species, body only about 2.5 mm long, with body and legs black, scutum with faint blackish stripes and 2-serial *acr*, haltere yellow. Legs long pubescent and bristled, also hind tibia in ♂ with long bristly hairs dorsally (as in *H. pilosopectinata*). Antennae short, with very short style, and labrum long, as long as head is high.

REDESCRIPTION:

Male. Frons and occiput dull black, face grey. Antennae with short 3rd segment, and also style very short and stout (!), half length of 3rd segment; labrum long, as long as head is high, all main characters very much like as in *H. cantabrica* Strobl (syn. *H. lundbecki* Frey; see Chvála, 2005a: 169 and 2008a: 113).

Thorax black, scutum blackish-grey in anterior view, dark grey in lateral view, with 4 indistinct, almost polished broad black stripes. The four stripes (the 2 indistinct blackish narrow stripes between 2-serial *acr* and 1-serial *dc*, and the lateral 2 broader still less distinct stripes) very indistinct in anterior view, in posterior view scutum extensively blackish; in anterior view scutum usually almost unstriped. Mesonotal bristles long but rather hair-like.

Wings clear, haltere clear yellowish.

Legs quite black, t_1 only slightly shorter and deeper than posterior four tibiae, bt_1 twice as stout as tibia, 2.5 times as long as deep, and shorter than t_1 ; t_1 and bt_1 long pubescent, t_1 with 4 dorsal bristles twice as long as tibia is deep, also t_2 and t_3 densely pubescent; t_3 dorsally with long hairs, very much as in *H. pilosopectinata* (syn. *H. longesetosa* Strobl).

Genitalia large, not higher than abdomen, but produced below. Lateral lamellae long and slender, pointing up backwards; hypandrium very slender, long and strip-like, very much as in *H. morata* or *H. cuneata*.

Length: body 2.3 – 2.8 mm.

Female. Still smaller than the male, t_1 and t_3 in addition to the pubescence with 5 short bristles.

DIFFERENTIAL DIAGNOSIS: The Scandinavian *H. pilipes* Zetterstedt, found also in cold temperate continental Europe and in mountains of central Europe (Krkonosé Mts in the Czech Republic), is a larger species, body 3 – 4 mm long, with legs in ♂ covered with very long, fine bristly hairs, and with t_2 and bt_2 swollen and densely long pubescent (see Chvála, 2005a: 128, Figs 199-203). The smaller-sized Alpine *Hilara tieffi* Strobl has the head including occiput dull grey, and blackish haltere.

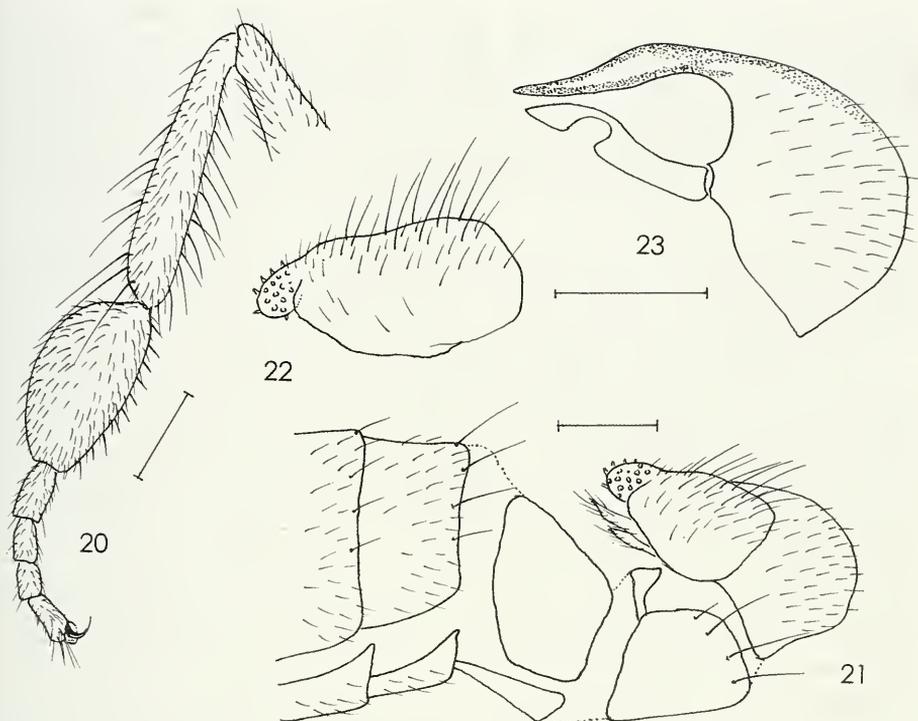
DISTRIBUTION: The species was described by Strobl (1892a) from Melk in Lower Austria as a species “in Menge schwebend Ende April 1885 über feinem Ufersande einer Donauau bei Melk”. Four syntypes, 3♂ and 1♀, collected on the banks of the River Danube in Austria were studied by Chvála (2004: 117) in the Strobl Collection in Admont, one ♂ was designated as lectotype. Further material is not available, and the 3♀ collected on 12 May by Prof. Tief at Paternion in Carinthia, also mentioned by Strobl (1892a) in the original description, were not found.

MATERIAL EXAMINED: **Austria:** Lower Austria: Melk, River Donau 13.iv.1885 3♂ 1♀ (syntypes, *Strobl*).

54. *Hilara luteihalterata* sp. n.

Figs 20-23

DIAGNOSIS: A small, dull grey species of the *H. intermedia*-group (body about 2.5 – 3 mm long), with yellow haltere, black legs, whitish pubescent legs and abdomen, and scutum dull grey, with distinct black altering stripes. Frons dull velvety black as in *H. flavohalterata* Strobl (known only from Croatia), and also occiput black when viewed from above, but extensively greyish when viewed from behind.



FIGS 20-23

Hilara luteihalterata sp. n. ♂ (CH, GE: Chancy, Vers Vaux, paratype). (20) Fore leg in posterior view. (21) Postabdomen (macerated). (22) Lateral genital lamella. (23) Hypandrium with postgonite. Scale: 0.2 mm.

DESCRIPTION:

Male. Frons and face very broad, face almost square-shaped and dull grey, frons velvety black, with a greyish triangular spot above antennae; vertex and occiput dull velvety black, although occiput, when viewed from behind, extensively greyish with only blackish shades, and on lower half below neck covered with whitish bristly hairs. Otherwise all setae on head black, vertical setae about as long as antennal segment 3, but the 2 pairs of ocellar and frontal setae very long and fine, much longer than upper setae on postocular margin. Antennae black, segment 3 short triangular, about twice as long as wide at base, style short and stout, only about half as long as segment 3. Palpi black, greyish pollinose, beneath with several long fine black setae. Proboscis short, labrum at most half as long as head is high.

Thorax dull grey on pleura, more brownish-grey dusted on scutum; when viewed from anteriorly scutum almost unstriped, in anterodorsal view with 2 dull black stripes between rows of bristles, in dorsal view scutum with 4 distinct dull black stripes, the lateral stripes broader and longer, and prescutellar depression clearly

brownish; when viewed from behind, the 2 slender median stripes turn to a single broad median stripe on the *acr* setae. All setae on thorax black, only notopleural depression with several whitish hairs, similar to those on prothoracic episterna; *acr* narrowly 2-serial, fine and small, about 15 in a row and as long as the short antennal style; *dc* 1-serial, clearly longer, but equally numerous; marginal setae in full number, 1 fine *h* seta, and last 2 pairs of prescutellar *dc* setae very long, as long as the inner pair of 4 *sc* setae.

Wings clear, nearly whitish in some lights, with contrasting dark veins and a distinct blackish stigma, radial fork of usual hilarine-shape; anal vein practically absent, a costal bristle scarcely as long as the outer pair of *sc* setae. Squama dark grey to brownish-grey, fringes whitish; haltere yellow, with extreme base of stalk darkened.

Legs uniformly black, almost subshining, finely greyish pollinose, and covered with mostly whitish hairs and also long setae are pale; only coxae dull grey like thoracic pleura, and covered with small whitish hairs; f_1 with a dense long whitish bristling posteriorly, the bristly hairs are much longer than femur is deep when viewed from above, also f_2 anteriorly with a row of long whitish setae (replacing the usual black anterior bristling), and f_3 covered mostly with short pale hairs, longer setae only anteroventrally before tip; t_1 (Fig. 20) rather stout, posteroventrally with similar long pale bristling as on femur, dorsally with several long blackish setae; bt_1 very stout but short, almost half as long a tibia, and covered with short hairs only; t_2 densely, rather brownish, long pubescent both anteriorly and posteriorly, the bristling is not much longer than tibia is deep (resembling in this way *H. intermedia* very much), but bt_2 slightly stouter than following tarsomeres, and densely, though shorter, bristled both antero- and posteroventrally (resembling in this way more *H. pilipes*); t_3 long and slender, only dorsally with about 7 to 8 fine blackish bristles about as long as tibia is deep; all tarsi rather short, but tarsomeres 2-4 on all pairs clearly longer than deep, although rather short on fore leg.

Abdomen almost uniformly rather light grey dusted, covered with fairly long whitish hairs, hind-marginal bristles long, black. Genitalia (Figs 21-23) small, pointing backwards, lamellae covered with dark setae: lateral lamella with the characteristic circular, ventrally spinose terminal process of the *H. brevivittata* complex of species sensu Chvála (2005a: 125).

Length: body 2.3 – 3.0 mm, wing 3.3 – 3.6 mm.

Female. Very much like male, head and thorax as in male, but wings with a tendency to be faintly clouded, not quite clear or whitish as in male. In contrast to the male the uniformly black legs are long and slender, covered (except for coxae) with only short dark hairs, long setae blackish and confined to the usual anterodorsal row on f_2 , and to about 4 long anteroventral preapical setae on f_3 . Anterior four tibiae without distinct setae, and f_1 posteroventrally (very densely long whitish bristled in ♂) with a row of only much shorter dark hairs, scarcely as long as femur is deep when viewed from above; t_3 distinctly thickened, rather laterally flattened, and as deep as femur, and distinctly curved when viewed from behind; dorsally with about 6-8 very fine dark setae much shorter than tibia is deep. All tarsi long and slender, even tarsomeres 2-4 on fore leg about twice as long as deep. Abdomen uniformly dull grey, more brownish-grey on dorsum, everywhere covered with short pale hairs, also the hind-marginal bristles fine and small, and clearly light brownish.

Length: body 2.2 – 3.0 mm, wing 3.0 – 3.6 mm.

DIFFERENTIAL DIAGNOSIS: Resembling *H. primula* Collin, 1927 (see Chvála, 2005a: 123) and *H. flavohalterata* Strobl, 1898 (see Chvála, 2008a: 75). *H. primula* has less distinct blackish stripes on scutum, clearly grey dusted occiput, longer antennal style (although thickened), t_2 in ♂ with short hairs, notopleura and humeri covered with black hairs, etc. The Mediterranean coastal *H. flavohalterata* seems to be more closely related, with similarly long pubescent ♂ t_2 , but it is a larger species, body 3 – 4 mm long, with antennal style also short but thin, wings are faintly brownish infuscated, and the pubescence on legs is blackish. Females of *H. luteihalterata* clearly differ from both above mentioned species by the t_3 which is thickened, about as wide as the corresponding femur, and distinctly curved. There is another similar species, *H. embartaki* Chvála, which is easily separated by a long slender antennal style, scutum with only 2 blackish central stripes visible from all points of view, the wing squama is very pale, the legs in ♂ are differently shaped, covered with black setae, and t_2 in ♂ bears short spine-like setae. It is not “woolly pubescent” as in *H. luteihalterata*, *H. intermedia* or *H. brevivittata*; also ♂ genitalia are different (see Chvála, 2008a: 74, Figs 67-70).

Holotype ♂: **Switzerland:** GE: Chancy, Vers Vaux (335 m) 9.iv.2007 (10), leg. B. Merz (MHNG).

Paratypes: 2♂ and 9♀ with the same data as holotype (MHNG, 1♂ and 3♀ UMO).

DERIVATIO NOMINIS: *lutei* – *halterata*, indicates the yellow colour of haltere, but also its similarity with the Croatian *H. flavohalterata* Strobl.

DISTRIBUTION: Only known from the most southwestern locality in Switzerland, at the French border, on the border of the Rhône river. A very early spring lowland species, in the beginning of April.

55. *Hilara embartaki* Chvála, 2008

REFERENCES. Chvála (2008a: 73) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: Morphologically similar with *H. luteihalterata*, but also with the next new species of the Bulgarian Rhodope Mts, *H. polleti*. It has been described only very recently from the Gulf of Lions south of the French Massif Central, and now it is recorded also as a real mountain species of the French Massif Central, at an altitude above 1500 m. Its occurrence in western Alps is very probable.

MATERIAL EXAMINED: **France:** Hérault, Golfe du Lion, Col du Cabaretous (940 m), NW of Beziers, 22.v.2006 3♂ 1♀ (*Barták*); Lozère, Sommet de Finiels, 1 km S (Valat de la Mouline) (1570 m) 11.vii.1998 1♂ (*Haenni*).

56. *Hilara polleti* sp. n.

Figs 24-26

DIAGNOSIS: Medium-sized dark dull grey species (body slightly more than 3 mm long), with occiput and frons dull black, scutum dull brownish-grey, with 2-serial *acr*, and 4 blackish longitudinal stripes; legs densely, mostly black pubescent, wings faintly brownish and haltere yellow, abdomen whitish pubescent on basal segments.

DESCRIPTION:

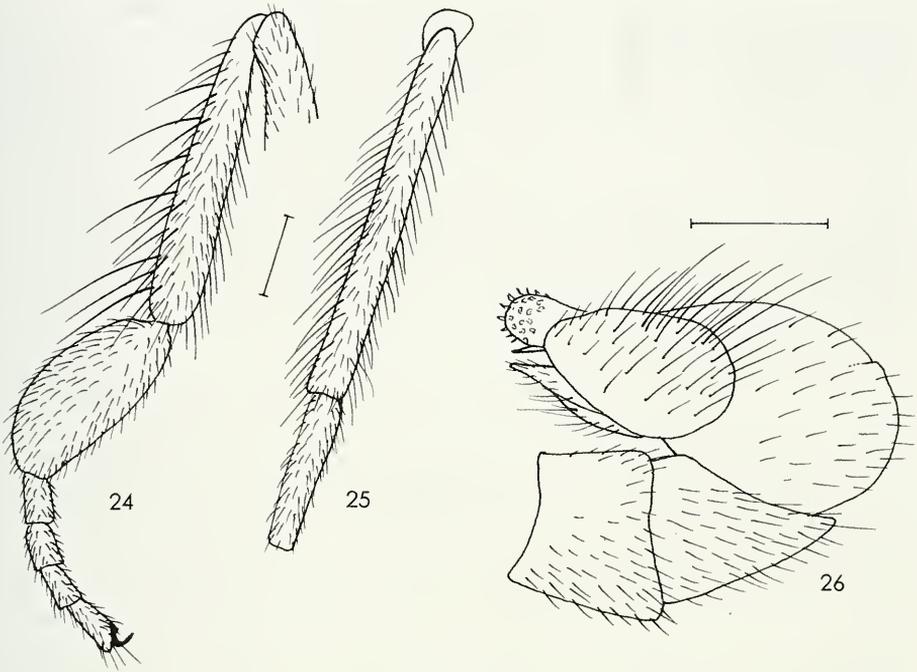
Male. The square-shaped face light grey, frons equally wide but dull black like vertex and occiput, only above antennae with a slight greyish shadow; lower part of occiput below neck greyish dusted and covered with whitish hairs. Other hairs and bristles on head black, ocellar and frontal bristles equally very long, longer than antennal segment 3 without style, postvertical bristles smaller. Antennae black, segment 3 long, style rather slender and about two-thirds length of segment 3. Palpi greyish, short black pubescent ventrally, and with a very long preapical bristle before tip. Labrum short, much shorter than head is high.

Thorax rather light grey dusted on pleura, scutum including scutellum uniformly contrasting dull brownish-grey, when viewed from in front scutum quite unstriped, in all other views with 4 dull black stripes, the 2 narrower blackish stripes between *acr* and *dc* bristles visible in anterior half of scutum only, absent in prescutellar region, laterally of *dc* 2 broader and longer similarly black stripes; when viewed from behind, the lateral stripes less distinct; compared with all related species of the *H. brevivittata* complex, the scutum is almost uniformly dull brownish-grey, not velvety black as usually. All thoracic setae black, *acr* narrowly 2-serial, *dc* 1-serial, all shorter than antennal style; *acr* less numerous, only about 10 setae in a row, *dc* more numerous; large marginal setae in full number, *h* and *ih* setae rather small and fine, other setae strong, the inner pair of 4 *sc* the longest. A small, but stout bristle on each side of pronotum, otherwise prothoracic episterna and prosternum with minute whitish hairs; prothoracic spiracle contrasting black.

Wings faintly brownish clouded, not quite clear, with contrasting dark veins and a distinct dark brown stigma; a long radial fork, anal vein indistinct, and costal seta about as long as *pa* seta. Squama light greyish with a very dark margin, fringes whitish. Haltere clear yellow on knob, stalk blackish-brown.

Legs uniformly black, including "knees", finely greyish pollinose, and covered with dense black hairs and setae, only *cx*₁ with white hairs; *f*₁ posteriorly with long dense bristling about as long as femur is deep, *f*₂ with usual long anterior setae, but otherwise with short fine pubescence, as in *f*₃, with the exception of 3 to 4 long anteroventral setae before tip of the latter; *t*₁ (Fig. 24) stout, dorsally with 5 pairs of very long black bristles directed dorsally and posterodorsally, and posteriorly with dense bristling at least as long as tibia is deep; *t*₂ (Fig. 25) with similar long dense bristling as in *H. intermedia*, anterior bristles longer than tibia is deep, posterior bristling denser, but shorter; *t*₃ ventrally with about 7 to 8 setae not longer than tibia is deep, dorsally with the same number of longer setae; *bt*₁ (Fig. 24) very thickened, clearly shorter than corresponding tibia, but as long as rest of tarsus, and even on dorsum covered with only short hairs; tarsi short, tarsomeres on fore leg rather stout, only slightly longer than deep, those on posterior four tarsi longer, and all covered with short hairs only.

Abdomen densely dull grey dusted, more brownish-grey on dorsum, when viewed from behind with distinctly paler, almost silvery grey, narrow hind margins; pubescence whitish on basal two segments, especially long on the narrow basal segment, following segments covered with black hairs, the long hind-marginal bristles on all segments also black. Genitalia (Fig. 26) small and rather narrow, pointing backwards, very much like as in the more northern *H. brevivittata* Macquart; hypandrium



FIGS 24-26

Hilara polleti sp. n. ♂ (BG, Rhodope Mts, paratype). (24) Fore leg in posterior view. (25) Mid leg with basitarsus in dorsal view. (26) Postabdomen and genitalia. Scale: 0.2 mm.

only slightly produced posteriorly, very narrowly pointed apically; lateral lamella covered with long blackish setae, and apically with the usual circular ventrally spinose apical process of the *H. brevivittata* complex of species.

Length: body 3.2 – 3.3 mm, wing 4.2 – 4.5 mm.

Female unknown.

DIFFERENTIAL DIAGNOSIS: This species of the Bulgarian Rhodope Mts is most closely related to *H. embartaki*, known so far only from mountains of the French Massif Central. *H. embartaki* is in general a smaller-sized species (body 2.8 – 3.2 mm, wing 2.9 – 3.3 mm), especially wings are shorter, there are only 2 dark stripes on scutum between lines of bristles (lateral stripes absent), the median region on *acr* setae is clearly greyish, and the 2 blackish median stripes are much more distinct in posterior view; *acr* and *dc* similar but more numerous, with about 16 *acr* setae in one row (only 10 setae in *H. polleti*), wings are almost clear in *H. embartaki*, iridescent, and haltere entirely very pale yellow including the stalk. Legs are in *H. embartaki* similarly uniformly black, although only finely pollinose, much more subshining; bristling on femora is similar, but t_1 bears only a few, usually 4 dorsal bristles in one row, and t_2 bears only 3 short spine-like anteroventral bristles about as long as tibia is deep. The long dense bristling of *H. polleti* on tibiae is absent. Genitalia of *H. embartaki* differ from those of *H. polleti* by only a sparse long bristling of lateral lamella, and the apical circular process is spinose along margins only, ventrally it is bare.

Holotype ♂: **Bulgaria** (Rhodope Mts): Blagoevgrad, 15.iv.1973, sipei. kol., leg. V. Beschovsky (UMO).

Paratypes: 1 ♂ with the same data as holotype, pinned with the holotype on the same pin (UMO).

DERIVATIO NOMINIS: The species is named after the Belgian dolichopodid specialist Dr Marc Pollet.

DISTRIBUTION: Bulgaria; in the western part of the Rhodope Mts close to Macedonia, its distribution along the Balkan mountain ranges west to the Alps may be anticipated.

57. *Hilara hirtipes* Collin, 1927

REFERENCES: Collin (1961: 599), Chvála (2005a: 132) – description and illustration of male fore and mid leg, and genitalia.

DISTRIBUTION: A species with a still problematic and unclear distribution in Europe. Described from Great Britain, and with certainty known so far along the Baltic Coast, from the Netherlands, Belgium and Germany. Further, it was recorded from Central Europe from Switzerland by Schiegg *et al.* (1999). Other records from mountains of central temperate Europe and from the Alps need revision because of their possible confusion with morphologically similar species. The only other verified identification from Central Europe is a male in the Admont Strobl Collection from Vorarlberg, identified by Strobl as *H. bistriata* Zetterstedt. Mainly a spring species, from April to the beginning of July.

MATERIAL EXAMINED: **Austria**: Vorarlberg 13.v. 1 ♂ (coll. *Strobl*). **Switzerland**: ZH: Sihlwald 24.v.-19.vi.1996 3 ♂ (*Schiegg*).

58. *Hilara bistriata* Zetterstedt, 1842

REFERENCES: Collin (1961: 603), Chvála (2005a: 135) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: A boreomontane species, common throughout Fennoscandia including Lapland and Kola Peninsula, on the British Isles mainly in Scotland, and then in mountains of central Europe including the Alps. For full data on its distribution in Europe, see Chvála (2002b: 238). A species of peat-bogs in the Czech Šumava Mts (Böhmerwald) at altitudes between 700 and 800 m; at similar altitudes as well in the Styrian Alps, mainly along streams on flowering willows. An early spring species, in the Alps mainly in April and May. Strobl (1893: 90, and 1898: 206) recorded it also as a common species in May and June in Carinthia, and later from Admont and Gesäuse.

MATERIAL EXAMINED: **Austria**: Styria: Admont 2.vi. 1 ♂. Krumau 2.v. 1 ♂; Gstatterboden 28.v. 1 ♂ (all *Strobl*); Ennstal near Admont (640 m) 28.iv. 1 ♂, 3.v.2008 1 ♀; Gesäuse Eingang, River Enns (620 m) 23.-29.iv.2004 13 ♂ 1 ♀, 18.v.2003 1 ♀; Seebacher near Ardning (640 m) 3.v.2004 2 ♂ 5 ♀ (all *Chvála*). Carinthia: Villach 15.v. 1 ♂ (*Strobl*).

59. *Hilara brevivittata* Macquart, 1827

REFERENCES: Collin (1961: 600), Chvála (2005a: 134) – description and illustration of male fore leg and mid tibia, postabdomen, and genitalia.

DISTRIBUTION: A species of temperate Europe, uncommon in England and very rare in the south of Scandinavia. Fairly common in spring in lowlands of central Europe south to France and the Alpine region. In the Alps, and other central European mountains, only at lower altitudes, at most up to 800 m. A very early spring species, mainly in April and May, only occasionally in June. For full data on its distribution in Europe, see Chvála (2002b: 240).

MATERIAL EXAMINED: **Austria:** Styria: Admont 12.v. 1 ♀; Gesäuse 10.v. 1 ♂ (all *Strobl*); Ennstal, Seelbacher near Ardning (640 m) 3.v.2004 1 ♀; River Enns near Admont (640 m) 22.v.2003 2 ♀ (all *Chvála*). Carinthia: Villach 1 ♂ (*Strobl*). **Switzerland:** SZ: Gersau, Oberholz (550 m) 14.iv.1981 1 ♂ (*Rezbanyai*). GR: S.Vittore, Rebberg (290 m) 8.iv.1997 1 ♂ 3 ♀. TI: Biasca, Loderio (350 m) 9.iv.1995 7 ♂ 4 ♀. UR: Bauen (436 m) 4.vi.1997 1 ♂. ZH: Zürich, Katensee (440 m) 19.iv.1997 1 ♀ (all *Merz*). **Italy:** Pallanza, Sallmuzz 28.iv.1900 1 ♂ (*Escher-Kündig*).

60. *Hilara coracina* Oldenberg, 1916

REFERENCES: Chvála (2002a: 73) – description, lectotype designation, and illustration of head, male fore and hind leg, and genitalia; Chvála (2005a: 137).

DISTRIBUTION: A boreomontane species, known from central parts of Sweden and Norway, the Baltic coast of Finland, and again in mountains of central Europe (Šumava Mts, Bayerischer Wald, Beskydy Mts) south to the Alps and Romanian Carpathians. Everywhere a rare species, from May to July.

MATERIAL EXAMINED: **Austria:** Styria: Admont, Saugraben (830 m) 19.vi.2000 1 ♂ (*Chvála*). Salzburgland: Gastein 23.vii.1907 1 ♀ (*Oldenberg*). **Switzerland:** SH: Merishausen, Gräte (520-720 m) 1.vi.1996 1 ♀ (*Merz & Eggenberger*). **Italy:** BZ: Bozen 5.-7.vi.1914 6 ♂ 1 ♀ (syntypes, *Oldenberg*); Tyroler Dolomiten, Ratzes 27.vii.1911 1 ♀ (*Oldenberg*).

Group 7 – *H. cornicula*-group

For a characterization of this group, and a revision of the European species, see Chvála (2005a: 139 and 2008a: 77).

61. *Hilara cornicula* Loew, 1873

REFERENCES: Collin (1961: 629), Chvála (2005a: 139) – description and illustration of male fore leg, postabdomen, and genitalia.

DISTRIBUTION: Very common and widely distributed European species, from the British Isles and southern parts of Fennoscandia through temperate Europe south to France, the Balkans and Romania. A common species in lowlands of temperate Europe from May to July. In the Alpine region already at the end of April, mainly at lower altitudes, only rarely at about 1000 m. Strobl (1893: 87, and 1898: 205) recorded it from Styrian Admont, and from Ennsauen near Admont and Gesäuse.

MATERIAL EXAMINED: **Austria:** Styria: Admont, Saugraben (700-830 m) 19.-25.v.2003 common; Hieflau, Waaggraben (600 m) 24.v.2003 common; Weissenbach bei Liezen (700 m) 25.v.2003 3 ♂ 3 ♀; Haller Mauern, Oberlaussa, Polzalmbach (750-850 m) 24.v.2003 common, 18.vi.2000 swarms; Hengstpass (1000 m) 18.vi.2000 3 ♀; Frauenberg near Admont, Edelgraben (680 m) 4.vii.2001 1 ♀ (all *Chvála*). **Switzerland:** GE: Bernex, Signal (510 m) 27.iv.2007 1 ♂, 2-12.v.2008 2 ♂ 4 ♀, 24.v.2002 1 ♂ 1 ♀ (all *Merz*); Cartigny, Moulin de Vert (350 m) 24.v.1999 2 ♀ (*Merz & Müller*), same (360 m) 29.iv.-1.v.1999 12 ♂ 2 ♀ (*Merz*); Bernex, Chante-Merle

(415 m) 30.iv.2007 1 ♀; Chancy, Vers Vaux (335 m) 1.vi.2002 1 ♂ (all *Merz*); Veyrier 8.v.1927 1 ♀ (*Naville*). AG: Klingnau (400-450 m) 20.v.1998 common (*Merz & Botta*). UR: Bauen (436 m) 4.vi.1997 1 ♀ (*Merz*). ZH: Embrach Haumüli (400 m) 29.iv.-10.vii. 1995-1998 common (*Wolf & Merz*), same (430 m) 29.v.1996 2 ♂ 1 ♀; Zürich (Zürichberg, Hönggerberg, Waldgarten, Irchel, Allmend, Katzensee, Ziegelhütte) (450-670 m) 6.v.-10.vi.1995-1998 11 ♂ 15 ♀ (all *Merz*). **Slovenia**: Julian Alps, Spodnja Bilpa, River Kolpa (3000 m) 15.vi.2006 1 ♀; River Čabranica (330 m) 15.vi.2006 1 ♂; Planinska Jama (800 m) 20.vi.2006 1 ♂ (all *Plant*).

62. *Hilara longifurca* Strobl, 1892

SYNONYM: *Hilara monedula* Collin, 1927

REFERENCES: Collin (1961: 627 as *H. monedula*), Chvála (2005a: 142) – description and illustration of male fore leg, postabdomen, and genitalia.

DISTRIBUTION: Until recently usually identified and published under the name *H. monedula* (e. g., Chvála *et al.*, 1998). Widely distributed and fairly common species in Europe, from Fennoscandia south to the Alpine region, and east to Moscow region in central European Russia. In temperate Europe in lowlands for a long period from May to the beginning of August. Strobl (1893: 87) recorded it as a common species in July and August in the vicinity of Admont, at Krumau, under the variety name *H. clypeata* var. *longifurca*.

MATERIAL EXAMINED: **Austria**: Styria: Gesäuse, Ennsufer (620 m) 19.viii. 1 ♂ 1 ♀; Admont (640 m) 18.vii. 1 ♀ (all *Strobl*, syntypes); River Enns near Admont (640 m) 7.vi.1996 1 ♂, 14.-16.vi.2000 10 ♂, 2.vii.2002 1 ♂ 2 ♀; Gesäuse Eingang (620 m) 25.v.2003 1 ♂ (all *Chvála*). **Switzerland**: NE: St. Blaise, Les Riedes (470 m) 19.v.2001 1 ♀ (*Merz*). VS: Grône, Poutafontana (510 m) 18.v.1996 1 ♂ (*Merz & Bächli*). TI: Biasca, Loderio (350 m) 17.vi.1995 1 ♂; Gordola, Bolle (220 m) 19.-20.vi.1995 1 ♂ 2 ♀ (all *Merz & Bächli*); Gordola, Verzasca-Ufer (205 m) 15.v.2006 1 ♂ 1 ♀; Gordola, Bolle di Magadino (200 m) 19.v.2006 13 ♂ 3 ♀; Tenero, Lido (205 m) 15.v.2006 6 ♂ 5 ♀ (all *Merz*); Bolle di Magadino, Marais (196 m) 30.iv.1996 7 ♂ 8 ♀; Vezia, Bolle di S. Martino (400 m) 2.vi.1996 1 ♂ (all *Pollini*). GE: Cartigny, Moulin de Vert (350 m) 24.v.1999 2 ♂ 1 ♀, 5.vi.2006 2 ♂ 2 ♀ (all *Merz*); Corsier-Port, vitre véranda 1.-30.vi.2006 1 ♀ (*Besuchet*). ZH: Embrach, Haumüli (400 m) 28.v.1997 1 ♂, 29.v.1996 1 ♀; Zürich, Zürichberg (600-650 m) 25.v.1995 1 ♀, 17.vi.1997 2 ♂; Zürich, Katzensee (440 m) 25.v.1996 2 ♂ 2 ♀, 31.v.1997 2 ♂ 1 ♀, 17.vi.1995 1 ♀; Zürich, Hönggerberg (530 m) 4.vi.1996 1 ♂ (all *Merz*). **France**: Savoie. Brides 5.-20.vii.1927 1 ♀ (*Naville*).

63. *Hilara campinosensis* Niesiolowski, 1986

REFERENCES: Chvála (2005a: 143) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: Known so far in lowlands of southern Fennoscandia around the Baltic coast, but everywhere rare, as for instance in central Poland. Obviously an overlooked species, known from only a few scattered localities, in the Czech Republic only from the Šumava Mts (Böhmerwald), or from one record from a peat bog in Switzerland where males were collected in large numbers at a light trap. A summer species, records are available from June to August.

MATERIAL EXAMINED: **Switzerland**: ZH: Illnau, Wildert (515 m) 29.vi.1998 LF 20 ♂ (*Merz*).

64. *Hilara pygialis* Chvála, 2008

REFERENCES: Chvála (2008a: 79) – description and illustration of male fore leg, female hind tibia, and male genitalia.

DISTRIBUTION: Only recently described from the Spanish mountains, and also from low altitudes in the southern Alps of France (Alpes-de-Haute-Provence, Montagne de Lure). As it has recently been found also in the eastern French Pyrenees it may occur as well in central and eastern Alps at lower altitudes. For this reason it is included here. In June and July, at altitudes between 500 – 900 m.

MATERIAL EXAMINED: **France:** Pyrenees, Can Baills, 10 km SW Thuir (610 m) 11.vi.2007 2♂ 3♀ (*Merz*).

65. *Hilara nigrohirta* Collin, 1927

REFERENCES: Collin (1961: 662), Chvála (2005a: 148) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: Described from England and still known only in the south of the British Isles (England and Wales), unknown in Scandinavia. Recorded only from scattered sites of warm temperate Europe. Recently the first specimens from a region south of the Czech Republic and Hungary were identified. A lowland species of a very late occurrence in summer and autumn, in central Europe from the end of August to October. This may be the reason for its rarity in collections although locally it occurs in large swarms above standing water.

MATERIAL EXAMINED: **Switzerland:** GR: Grono, Dorf (350 m) 31.viii.2006 1♀ (*Merz*). **France:** Ardèche, Vals les Bains 3.-12.ix.2004 1♀ (*Ackland*).

REMARK: This species is here recorded for the first time from Switzerland.

66. *Hilara pseudocornicula* Strobl, 1909

SYNONYM: *Hilara subpollinosa* Collin, 1927

REFERENCES: Collin (1961: 633 as *H. subpollinosa*), Chvála (2005a: 149 as *H. subpollinosa*) – description and illustration of male fore leg and hind femur, female hind tibia, and male genitalia. Chvála (2008a: 85) – new synonymy and distribution.

DISTRIBUTION: This species was for a long time well known to dipterists in colder and temperate Europe as *Hilara subpollinosa* Collin. A species described from England, known so far from the south of Scandinavia and from central temperate Europe east to central European Russia. In central Europe mainly in mountains above 1300 m. However, the species was described already earlier from Spain as *H. pseudocornicula*, where it is locally very common, even on Mediterranean Islands (Malta). According to Strobl (1909) “in large numbers above puddles” in Spain. Therefore, the occurrence in the Alpine countries is also possible.

MATERIAL EXAMINED: **Czech Republic:** Krkonoše Mts (Riesengebirge, or Giant Mts), Labská bouda (1350 m) 23.-26.v.2001 PT 1♂ (*Vaněk*); Labská and Pančavská louka (meadow) (1340 m) 16.-17.vi.2005 2♀ (*Barták*). **Slovakia:** Velká Fatra Mts, Kantorská dolina 29.vi.1975 1♂ (*Barták*).

67. *Hilara quadrifaria* Strobl, 1892

REFERENCES: Straka (1976: 22 as *H. triglavensis* Straka, sp. n., a junior synonym) – description and illustration of male fore leg and genitalia. Chvála (1997c: 318) – description and illustration of male fore leg and genitalia, synonymy.

DISTRIBUTION: A characteristic mountain species, originally described by Strobl (1892a) from Austria and Switzerland, later by Straka (1976) as *H. triglavensis* from the Slovenian Julian Alps. Besides the Alps the species is known also from the Slovak and Romanian Carpathians. For a long period from May to August.

MATERIAL EXAMINED: **Austria:** Oberösterreich: St. Pankraz, River Steyer (490 m) 14.v. 1♂, 12.vi.2000 4♂ 1♀ (Chvála). Styria: Almsee near Turrach, Gurktaler Alpen 2♂; Gstatterboden 28.v. 1♂ (all Strobl); Hieflau, Waaggraben (600 m) 24.v.2003 1♂; Hall near Admont (640 m) 5.vi.1996 2♂; Admont, Saugraben (760 m) 12.vi.2000 1♂; Ennstaler Alpen, Unterlaussa (700 m) 14.vi.1997 2♂, 18.vi.2000 2♂; Gesäuse, Johnsbach (900 m) 8.vi.1996 1♂ 1♀; Kaiserau (1100 m) 11.vi.1997 2♂ 1♀; Kalblinggatterl (1400 m) 15.vi.1997 4♂ 2♀; Rottenmanner Tauern, Hohetauern, Weber Teich (1200 m) 5.vii.2001 1♂ (all Chvála). **Switzerland:** GR: St. Moritz 8.vii. 1♂ (Becker); Valbella See (1490 m) 10.vii.1996 4♂ 1♀; Lenz, St. Cassian (1450 m) 11.vii.1996 1♂; Susch, Dorf (1420 m) 6.viii.1996 1♂ (all Merz), same 6.viii.1995 2♂ (Merz & Bächli); Valbella, Casoja (1490-1500 m) 13.-14.vii.1998 4♂ 2♀ (Merz); Müstair (1300 m) 15.vii.1980 1♂ (Haenni). TI: Gordola, Verzasca-Ufer (205 m) 15.v.2006 1♂; Tenero, Lido (205 m) 15.v.2006 1♂ (all Merz). VS: Morgins, En Tey (1300 m) 22.vi.2003 1♂ (Merz); Aletsch, Tieffenwald (1800 m) 4.vii.1996 3♂ (Haenni). **Slovenia:** Julian Alps, River Lepena (530 m) 19.vi.2006 2♂; River Bistrica, Slap Perinik (775 m) 19.vi.2006 1♂; Vrsnik, River Soča (485 m) 19.vi.2006 1♂; River Kolpa (240 m) 15.vi.2006 1♀ (all Plant). **France:** Alpes Maritimes, Sospel, 11 km NNW E col de Turini (1200 m) 12.vi.1994 1♂ (Haenni & Dufour).

68. *Hilara lurida* (Fallén, 1816)

REFERENCES: Collin (1961: 625), Chvála (2005a: 154) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: A widely distributed species in Europe, from Fennoscandia south to the Mediterranean and the Balkans. Flight period in central Europe from May to August. Mainly in lowlands and at lower altitudes to about 700 m in mountains including the Alps. In Austrian Alps in swarms above streams, but Strobl (1910: 70) recorded it only at “forests near Admont”, and “very sparsely”. Known also from the French Pyrenees.

MATERIAL EXAMINED: **Austria:** Styria: Admont (640 m) 13.-16.vi.2000 swarms; River Enns near Admont (640 m) 2.vii.2002 1♂; Admont, on window (640 m) 1.-8.vii.2002 2♀, 11.vii.2008 1♀ (all Chvála). **Switzerland:** NE: Hauterive, Champréveyres-Dessous (435 m) 19.vi.2004 1♂; Neuchâtel, Gorges du Seyon (495 m) 21.vi.2006 1♂ (all Haenni). GE: Cartigny, Moulin de Vert (350 m) 24.v.1999 1♀ (Merz & Müller); Chancy, Vers Vaux (335 m) 1.vi.2002 1♂ (Merz); Rés[ervoir] Nant de la Dronde (400 m) 21.vi.2006 PL 1♂ (Stucki). TI: Tenero, Lido (205 m) 15.v.2006 6♂ (Merz); Biasca, Loderio (350 m) 17.vi.1995 1♀; Gordola, Bolle (220 m) 18.vi.1995 1♀ (all Merz & Bächli). ZH: Sihlbrugg (670 m) 29.vi.1994 1♀ (Rüegg); Embrach, Haumli (400 m) 11.vi.1997 1♂ 1♀, 10.vii.1997 2♂ (all Merz), 4.-19.vi.1998 common (Wolf); Zürich, Hönggerberg (550 m) 5.vii.1994 1♂, 17.vi.1997 1♂; Zürich, Zürichberg (600 m) 18.vi.1996 2♂ 1♀; Zürich, Katzenssee (440 m) 31.v.1997 7♂ 2♀; Zürich, Ziegelhütte (460 m) 29.vi.1997 2♂ 1♀; Zürich, Rütihof (500 m) 1.vii.1993 1♀; Meilen, Veltlin 1.vi.1997 1♀ (all Merz). **Slovenia:** Julian Alps, Planinska jama (800 m) 20.vi.2006 1♀; Spodnja Bilpa, River Kolpa (300 m) 15.vi.2006 4♂ 1♀ (all Plant). **France:** Gard, Dourbies (1045 m) 9.vii.1989 1♀ (Haenni); Alpes Maritimes, Menton (280 m) 13.vi.1994 2♂ (Haenni & Dufour).

Group 8 – *H. lasiochira*-group

For a characterization of this group, and a revision of the six up now known European species, see Chvála (2008a: 92).

69. *Hilara pilosopectinata* Strobl, 1892

SYNONYM: *Hilara longesetosa* Strobl, 1910

REFERENCES: Chvála (2008a: 92, as *H. longesetosa*) – description and illustration of male fore and hind leg, postabdomen and genitalia; for a brief informal synonymy, see Chvála (2008b: 155 and 211).

DISTRIBUTION: Central European species, known so far from Germany, Czech Republic and Slovakia, and south to the Alpine countries. Mostly in lowlands, less often in submountain regions, for a long time in summer, from June to August. The distribution in England needs verification.

MATERIAL EXAMINED: **Austria:** Oberösterreich: Gmunden 1♂ 1♀ (syntypes) (*Schiner*). Styria: Admont, Fels (Pitzwalde, 900 m) 5.vii. 1♂ (*Strobl*) [holotype *H. longesetosa*]. **Switzerland:** GE: Dardagny, Le Moulin (360 m) 5.vi.2006 3♂ 1♀, 30.vi.2001 1♂ (all *Merz*), 11.viii.2000 1♂ (*Merz & Bächli*); Dardagny, Roulave (420 m) 30.vi.2001 1♂ (all *Merz*); Corsier-Port, vitre véranda vi.2005 1♀ (*Besuchet*); Bernex, Saule (440 m) 19.vi.2008 1♀; Bernex, Signal (510 m) 21.vi.2008 1♀ (all *Merz*); Moulin de Veigy, source (410 m) 22.vi.2006 (at light) 2♂ 1♀ (*Stucki*). BE: Mörigen, Bucht (430 m) 7.vii.2002 1♂ (*Merz*). AG: Aarau 26.vi.1926 1♀, 12.vii.1917 1♂ (*Zürcher*). ZH: Embrach, Haumüli (400-430 m) 11.vi.1997 1♂, 3.vii.1996 1♂ 1♀ (all *Merz*), 23.-29.vi.1998 1♂ 2♀ (*Wolf*), 24.vi.1995 1♂ 1♀ (*Brandes*). **Slovenia:** River Dragonia 20.vi.2006 2♂ (*Plant*).

REMARKS: *Hilara pilosopectinata* was described by Strobl (1892a: 169) as “Ein leider nicht gut erhaltenes Pärchen dieser wunderbaren Art steckt in der Sammlung Schiner’s als n. sp. aus Oesterreich”. In comparison with other descriptions of Strobl, this species was described only briefly, incompletely, and even erroneously. It was arranged in Strobl (1892a) in the group B [Arten mit dunklem Thorax, aber wenigstens theilweise (auch ausser den Knieen) lichten Beinen], i.e. within the *Hilara* species with yellow legs; it was arranged behind *Hilara lasiopa* (as *H. matrona* Haliday), followed by two species of the *Hilara clavipes* group, and *H. lurida*. The size was not mentioned, and the main errors were the “pedibus et halteribus brunneoflavis”, and the legs as “femoribus, tibiis et metatarsi longe pilosopectinatis”. The female, mentioned as “in copula gefangen”, was briefly described in one sentence as “gleich sehr dem ♂, aber der Hinterleib ist gelbbraun, die Bewimperung der Beine um sehr viel kürzer; doch ist ...” – this short diagnosis corresponds neither with *H. longesetosa*, nor with the diagnosis of Engel (see below).

The only available published record was presented by Engel (1941: 263) who mentioned three specimens in the Vienna Museum, including a pair “♂ u. ♀ Gmunden (*Schiner* leg., *Strobl* det.)”. The Engel’s (1941) redescription led only partly to *H. longesetosa* Strobl, especially the figured male legs (Figs 156, 157), where basitarsi were shown as not bristled; however, Engel described legs in female as “einfach, aber in gleicher Weise pubeszent und beborstet wie beim ♂”. This characteristics clearly eliminated *Hilara longesetosa*. Furthermore, Strobl (1892a) mentioned the two syntypes to be from „Oesterreich“, not from Gmunden, although he always presented precise Austrian localities in his descriptions.

Therefore, Chvála (2005a: 153) doubted the synonymy of *H. pilosopectinata* with *Hilara longesetosa* but, on the other hand, he admitted that both Engel (1941) and later Andrewes (1966) could have identified specimens of *H. longesetosa* Strobl under the name of *H. pilosopectinata*. It was assumed that the latter was a distinct species

differing from *H. longesetosa* by its yellowish, strongly bristled legs including the fore basitarsi, and that it was not correctly recognized probably because of its more southern origin of the former historically largely extended Austrian Empire of the 19th century (south right up to the Mediterranean Sea). Only in 2008, the first author (MC) studied the Vienna syntypes, and found them to be insufficiently described by Strobl, but clearly conspecific with *Hilara longesetosa* Strobl. Consequently, the latter becomes a junior synonym of *H. pilospectinata* which was obviously not recognized by Strobl 18 years later when he described *H. longesetosa* based on the specimens from Gmunden. For a full redescription with illustrations of *H. longesetosa*, classified within the *Hilara lasiochira* group, see Chvála (2008a: 92), for the holotype identification, see Chvála (2004: 120).

Lectotype designation. The species was described from a pair (in copula) from the Schiner's Collection, as "aus Oesterreich". The 2 syntypes, mounted on one pin, are in the Naturhistorisches Museum, Wien, and are labelled "Gmunden Alte Sammlung", and "*H. pilospectinata* Strobl" (a label written by Strobl). The specimens are of a very old origin, they have really reddish legs. Although they are scarcely immature specimens, but they were more probably killed by ammoniac. Furthermore, the legs in the male are crossed, and the basitarsi, covered by tibiae, look like as they were long bristled as well. The syntypes were studied in September 2008, the ♂ was selected and labelled as lectotype, and the ♀ is paralectotype (Chvála, 2008b: 211). Together with the syntypic pair there are further 2♂ under *H. pilospectinata* in the Vienna Museum, both are conspecific with the syntypes: 1♂ is labelled "Wien Hadersdorf Bachrand 15.VII.51 leg. Mayer" and "*Hilara pilospectinata* Str. det. Mayer 1952"; the second ♂ is labelled "Hint. Brühe 20.7.82" and "Coll. Becher", and this is the third specimen mentioned by Engel (1941).

70. *Hilara lasiochira* Strobl, 1892

REFERENCES: Chvála (2005a: 151) – description and illustration of male fore leg, female hind tibia, and male postabdomen with genitalia.

DISTRIBUTION: Widely distributed in mild temperate Central Europe, north to Denmark and south Sweden, southwards to French Provence and Bulgaria. A lowland, spring and early summer species, from May to July. Everywhere uncommon.

MATERIAL EXAMINED: **Austria:** Tyrol: Blumau 31.v.1914 1♂ 1♀ (*Oldenberg*). **Switzerland:** GE: Jussy, Prés de Vilette (675 m) 18.v.2004 1♂; Chancy, La Laire (350 m) 9.vii.2002 1♂ (all *Merz*); Russin, Les Bailleys (405 m) 1.vii.2002 1♂ (*Merz & Hermann*). ZH: Zürich, Katzensee (440 m) 3.v.1997 1♂. TI: (205 m) Tenero, Lido (205 m) 15.v.2006 1♂ (all *Merz*); Vezia, Bolle di S. Martino (407 m) 2.vi.1996 1♂ 1♀ (all *Pollini*). **France:** Haute Savoie (500 m) iv.2001 1♂ (*Siffointe*). Hérault, Prates, 10 km N Montpellier 26.v.2006 2♀ (*Barták*). **Italy:** BZ: Bolzano 14.vi.1873 1♂ (*Kowarz*).

REMARK: This species is here recorded for the first time from Switzerland.

71. *Hilara strakai* Chvála, 1981

REFERENCES: Chvála (2008a: 100) – description and illustration of male fore leg.

DISTRIBUTION: West Mediterranean species, it has been known until now only from southern Spain between Malaga and Almeria from 300 - 600 m (see Chvála, 2008a), now it is recorded also from Switzerland. A good example that some of the supposedly exclusively "Spanish" *Hilara* species (as *H. ponti*, *H. veletica*, *H. pygialis*) may well occur also in the Central Europe. An early spring species, in April and May.

MATERIAL EXAMINED: **Switzerland:** GE: Bernex Signal (500 m) 30.iv.2007 1♂ 1♀, same (510 m) 2.v.2008 1♂ (all *Merz*).

REMARK: This species is here recorded for the first time from Switzerland.

Group 9 – *H. interstincta*-group

For a characterization of this group, and a revision of the European species, see Chvála (2005a: 156 and 2008a: 101).

72. *Hilara interstincta* (Fallén, 1816)

REFERENCES: Collin (1961: 606), Chvála (2005a: 156) – description and illustration of fore and mid leg, and genitalia.

DISTRIBUTION: *Hilara interstincta* is the only species of the genus with a confirmed Holarctic distribution. In the old world known throughout Europe including Siberia. In the Nearctic region it was found in northeast Canada. Throughout Europe, from the north of Fennoscandia south to the Mediterranean. In temperate Europe everywhere very common both in lowlands and high in mountains, from May to August. However, in the Alps only for a shorter period in June and in July, then it is replaced at the same sites by the exclusively alpine, but also very common, *H. dimidiata*. Strobl (1910: 69) recorded mass occurrence of *H. interstincta* at Turrach in southern Styria, but recorded it as much less common in the vicinity of Admont.

MATERIAL EXAMINED: **Austria:** Oberösterreich: Totes Gebirge, Wurzeralm (1400 m) 30.vi.2002 swarms; Hinterstoder (700 m) 8.vii.2001 2♀. Styria: Haller Mauern, Mühlau (750 m) 19.vi.2007 1♀; Ennstal, Frauenberg near Admont (680 m) 25.vi.2002 2♀, 4.vii.2001 swarms; Admont, Kematengraben (1000 m) 9.vii.2001 1♂; Weissenbach bei Liezen (700 m) 8.vii.2002 1♂ 1♀; Gesäuse, Kalbling (1500 m) 1.vii.2002 swarms; Kaiserau, (1100 m) 1.vii.2002 1♂ 2♀; Gesäuse, Johnsbach (1050 m) 5.vii.2002 common; Rottenmanner Tauern, Hohentauern, Weber Teich (1200 m) 5.vii.2001 swarms; Bösenstein, Scheibelsee (1750 m) 6.vii.2002 swarms; Schladming, Planai (1850 m) 6.vii.2001 swarms; Schladminger Tauern, Sölkpass (1800 m) 7.vii.2001 9♂ 1♀; Kleinsölk (1000 m) 7.vii.2001 5♂ 1♀ (all *Chvála*). **Switzerland:** GR: Lenzerheide (2000 m) MT [= Malaise trap] 21.-31.vii.2000 1♂; Valbella, Casoja (1500 m) 19.-24.vii.1997 3♂ 6♀, 24.vii.1999 2♂ 1♀; Ftan (1650 m) 27.vi.1994 1♂ (all *Merz*). ZH: Embrach, Haumüli (400 m) 24.vi.1995 1♀ (*Soliva*), 11.vi.1997 1♂ (*Ruckstuhl*); Zürich, Zürichberg (650 m) 28.vi.1995 1♂ (*Ungricht*); Zürich, Katzenssee (440 m) 31.v.1997 1♀ (*Merz*). BE: Hasliberg viii.1891 1♂ 1♀ (*Escher-Kündig*). TI: Piora (1860-1880 m) 21.-23.vii.1981 1♂ 1♀ (*Sauter*), 15.-20.vii.1896 7♂. **Italy:** Madesimo 31.vii.1910 1♂ (all *Escher-Kündig*). **Slovenia:** Julian Alps, Pohorje Mts, Rogla (1300 m) 17.vi.2006 14♂ (*Plant*).

73. *Hilara lugubris* (Zetterstedt, 1819)

REFERENCES: Collin (1961: 609), Chvála (2005a: 158) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: Although described from the south of Sweden (Skåne), very rare in Scandinavia. Everywhere uncommon at scattered localities from England and the

Netherlands south to the Alpine countries and Romania. Both in lowlands and in mountains, without any preference. Flight period from May to July.

MATERIAL EXAMINED: **Austria:** Styria: Scheibleggerhochalpen, Kalbling (5000') 18.vii.1890 1 ♂; Hohentauern Wolfsgraben 1 ♀ (all *Strobl*); Rottenmanner Tauern, Weber Teich (1300 m) 5.vii.2001 swarm, 6.vii.2002 1 ♂ (*Chvála*). **Switzerland:** GR: Zernez (1450 m) 29.vi.1957 1 ♂ (*Sauter*). VS: Raron, Heidnischbiel (700-770 m) 26.v.1999 3 ♀ (*Merz*).

74. *Hilara dimidiata* Strobl, 1892

Figs 27-30

REFERENCES: Strobl (1892a: 128).

DIAGNOSIS: Large, body 3.5 – 5 mm long, dull greyish-black species, with all hairs and bristles on body and legs black. A strongly black bristled species, *acr* regularly 4-serial, legs long and rather slender, male *bt*₁ long ovate and not much wider than corresponding tibia, female *t*₃ slender on basal half, and very dilated towards tip.

REDESCRIPTION:

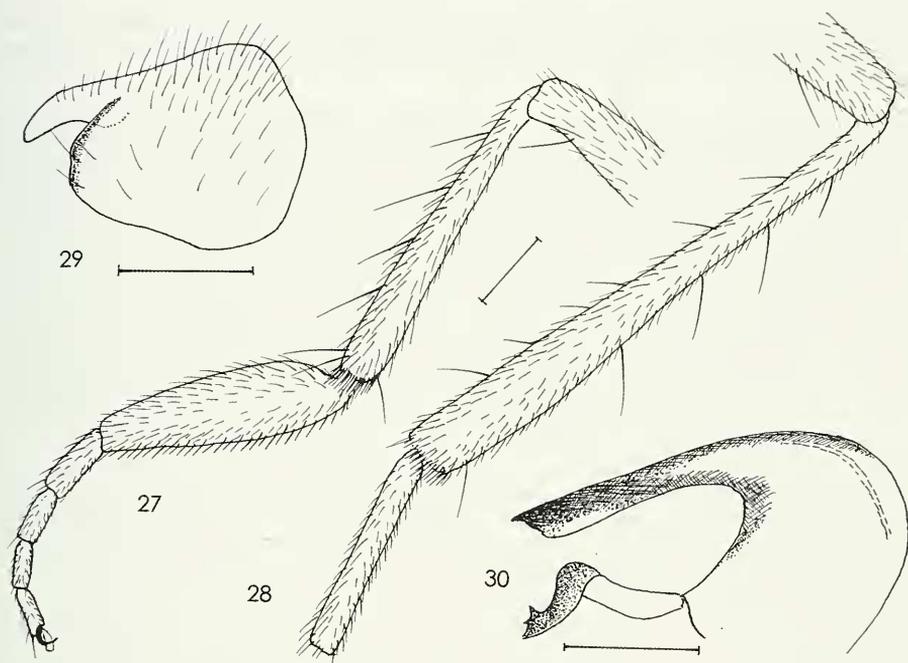
Male. All hairs and strong bristles on head black. Frons wide, and like vertex and occiput dull velvety black, frons with only a small triangular patch just above antennae grey; face as wide as frons below, dull grey. Ocellar and frontal bristles equally long and strong, upper vertical setae only slightly shorter. Antennae black, style long and slender, as long as the narrowly triangular segment 3. Palpi greyish-black, densely black pubescent beneath, and with a very long preapical seta, clearly longer than the short labrum, which is scarcely half as long as head is high.

Thorax uniformly dull greyish-black, pleura lighter grey, and scutum in dorsal view more blackish, leaving humeri (postpronotum), narrow margins, and scutellum lighter grey. All setae black, *acr* numerous, regularly widely 4-serial, lying in anterior view on a darker central stripe (turning to brownish stripe when viewed from behind), all strong but not very long, *dc* uniserial and clearly longer, posterior prescutellar pairs very long. Other marginal bristles in full number, long and strong, especially a *pa*, 3 *npl*, a *sa*, and the inner pair of the 4 *sc*: pronotum with a strong seta on each side, and additional usually 4 small setae towards middle.

Wings almost clear, with strong blackish veins and a distinct dark stigma, anal vein indistinct, and radial fork long. Squamae whitish-grey with whitish fringes. Haltere blackish, but stem clearly paler, brownish to yellowish-brown.

Legs long and rather slender, subshining black and finely greyish pollinose, *cx*₁ and base of *f*₁ often with a tendency to be slightly translucent brownish. All hairs and setae black, femora without distinct bristles, except for a row of the usual very long strong anterior bristles on *f*₂; *t*₁ (Fig. 27) with several dorsal bristles slightly longer than tibia is deep, similar dorsal bristling also on *t*₃, and some shorter but more numerous anteroventral bristles; *t*₂ with only a few (2 or 3) short antero- and posteroventral setae in apical half; all tibiae also with a comb of distinct preapical setae. All tarsi long and slender, covered with short hairs, *bt*₁ (Fig. 27) long ovate, and not much stouter than tibia.

Abdomen subshining black on dorsum, sterna dull greyish; pubescence dense, hind-marginal bristles on terga strong. Genitalia (Figs 29-30) in general structure and also in details as in *H. interstincta*, but the terminal blunt-ended process of lateral lamella broader, and also terminal part of hypandrium much broader.



FIGS 27-30

Hilara dimidiata Strobl (A. Styria, Schladminger Tauern, Sölkpass). (27) Male fore leg in anterior view. (28) Female hind tibia and basitarsus in posterior view. (29) Lateral genital lamella. (30) Hypandrium with postgonite. Scale: 0.2 mm.

Length: body 4.0 – 5.0 mm, wing 4.3 – 4.9 mm.

Female. Very much like male, also the bristling on legs similar, only t_1 dorsally with shorter setae, as long as tibia is deep, but the characteristic bristling of t_2 exactly as in male; t_3 (Fig. 28) very characteristic by its narrow basal half, and very dilated apical half (resembling in this way especially *H. nigrocincta*). Abdomen similarly almost shining black on dorsum of basal 5 segments, apical segments dull grey, and hind-marginal bristles on terga not absent.

Length: body 3.3 – 4.6 mm, wing 4.2 – 4.8 mm.

DIFFERENTIAL DIAGNOSIS: Morphologically resembling *H. interstincta* and occurring in the same habitats but has a later flight period. It clearly differs by the absence of ventral spine-like bristles on f_2 which are present in *H. interstincta* and *H. lugubris*, and the female of *H. dimidiata* is very characteristic by its unusually thickened t_3 on apical half (tibia is simple and slender in both *H. interstincta* and *H. lugubris*).

DISTRIBUTION: An endemic Alpine species, very common everywhere but only at high altitudes, forming common swarms above puddles and streams in late summer, mainly from August to the beginning of October. Strobl (1893: 89) recorded its mass occurrence in the Styrian Alps from the Ennstaler Alpen, Gesäuse and Rottenmanner

Tauern in July and August. In the original description Strobl (1892a: 128) described it as one of the commonest *Hilara* species in the Styrian Alps, swarming above streams, lakes and puddles.

MATERIAL EXAMINED: **Austria:** Oberösterreich: Hinterstoder, River Steyer (650 m) 23.viii.2001 common (*Chvála*). Styria: Natterriegel 27.vii.1891 1♂; Scheiplalm (at Bösenstein, 1700 m) 13.viii.1882 1♀; Veitlgraben 1♀; Triebenthal 10.viii. 1♂; Krumau (near Admont, 640 m) 15.viii.1883 1♀; Gesäuse 6.viii. 1♂; Rottenmanner Tauern, Hochschwung (about 2000 m) 30.viii.1890 1♂ 2♀ (all *Strobl*); Scheibleggerhochalpe, Kalblinggatterl (1500 m) 27.vii.1997 swarms; Gesäuse, Johnsbach (970 m) 1.viii.2003 1♂; Kaiserau (1150 m) 2.viii.2009 swarms; Haller Mauern, Oberlaussa, Polzalmbach (950 m) 25.viii.2001 common; Buchauer Sattel (830 m) 12.ix.2006 1♂; Mühlau, Esslingbach (900 m); Rottenmanner Tauern, Bösenstein, Scheibelsee (1750 m) 2.viii.2003, 10.ix.2006, 18.ix.2004 common; Edelrautehütte (1725 m) 10.ix.2006 swarms; Hohentauern (1300 m) 10.ix.2006 swarms; Schladminger Tauern, Sölkpass (1900 m) 24.viii.2001 swarms (all *Chvála*). **Switzerland:** GR: Ausserferrera (1300 m) 28.viii.2006 1♂ 7♀; Ausserferrera, Cresta (1300-1670 m) 1.ix.2006 2♀ (all *Merz*); Susch, Dorf (1420 m) 6.viii.1996 1♂ (*Merz & Bächli*); Laax vii.-viii.1892 5♂ 1♀ (*Escher-Kündig*). GL: Klöntal, Richisau (1150 m) 7.-8.viii.1995 2♂ (*Merz*), 8.viii.1991 1♂ (*Bächli*). SG: Unterwasser (910 m) 15.viii.1997 1♂ 1♀. UR: Unterschächen (1060 m) 25.viii.1997 4♂ 3♀ (all *Merz*). BE: Weissenburg im Simmental 5♂ (*Huguenin*). VS: Visperterminen, Dorf (1400 m) 30.vii.1998 1♀ (*Merz & Bächli*); Visperterminen, Gebidemsee (1900-2200 m) 28.viii.2001 1♂ (*Merz & Landry*), 10.ix.2005 1♀ (*Isnay & Schulten*). FR: Schwarzsee (1046 m) 11.ix.1995. TI: Bodio (Bitanengo) Ri della Fontana (1000 m) 19.viii.1988 3♀. VD: Bex, Vallon de Nant (1580-1740 m) 8.x.1995 2♀ (all *Haenni*).

REMARK: The species was listed from Switzerland in the Checklist (*Chvála et al.*, 1998) from literature records only. Herewith its presence in Switzerland is confirmed by specimens collected and studied recently by the authors.

75. *Hilara scrobiculata* Loew, 1873

REFERENCES: Collin (1961: 612), Chvála (2005a: 160) – description and illustration of male fore leg, postabdomen and genitalia.

DISTRIBUTION: Widely distributed in Europe, described from the western slopes of East Carpathians, but not rare as well in northern parts of Fennoscandia, known also from Scotland, the Romanian Carpathians and the Austrian, Swiss and French Alps. A species of boreoalpine or boreomontane distribution in Europe, frequently in the Alps at altitudes above 2000 m. mainly in July and August. The only *Hilara* species recorded by Menzel & Ziegler (2001) from the Hohe Tauern National Park in Austria.

MATERIAL EXAMINED: **Austria:** Styria: Haller Mauern, Natterriegel 11.viii.1890 1♀ (*Strobl*); Admonter Haus (1700 m) 8.viii.1998 2♂ (*Chvála*); Rottenmanner Tauern, Hochschwung (2100 m) 20.viii.1890 1♂ (*Strobl*). Tyrol: Grossglockner (2250 m) 17.viii.1893 1♂ 3♀ (*Strobl*), 31.vii.1988 2♀ (*Barták*); Oberes Mölltal, Pockhorner Wiesen (2000 m) 24.vii.1996 1♂ 1♀ (*Kreisch*). **Switzerland:** GR: St. Moritz 29.vi. 1♀ (holotype of *H. coerulea* Becker, 1887, a synonym of *H. scrobiculata*), 29.vi. 1♂ 1♀ (No.9847, 9849) (*Becker*); Zuoz, Stipawiese (1675 m) 15.vii.1975 1♀, same (1685 m) 22.vii.1987 2♀ (*Sauter*); Valbella, See (1490 m) 10.vii.1996 3♂ 1♀; Valbella, Casoja (1550 m) 13.vii.1996 1♂, same (1500 m) 14.vii.1998 1♀ (all *Merz*). **France:** Pic Long (2200 m) 9.vii.1990 2♀; Hautes-Alpes, Montgenevre (1800 m) 17.vii.1990 4♂ (all *Barták*).

76. *Hilara sirbitzmatrona* sp. n.

Figs 31-32

DIAGNOSIS: Medium-sized, body about 3 – 3.5 mm long, black coloured and strongly black bristled species, with short labrum, dull black occiput, thorax with

shifting black pattern on a cupreous brown scutum; *acr* 4-serial, haltere and legs uniformly black, male fore tibia and tarsus very stout and strongly black bristled.

DESCRIPTION:

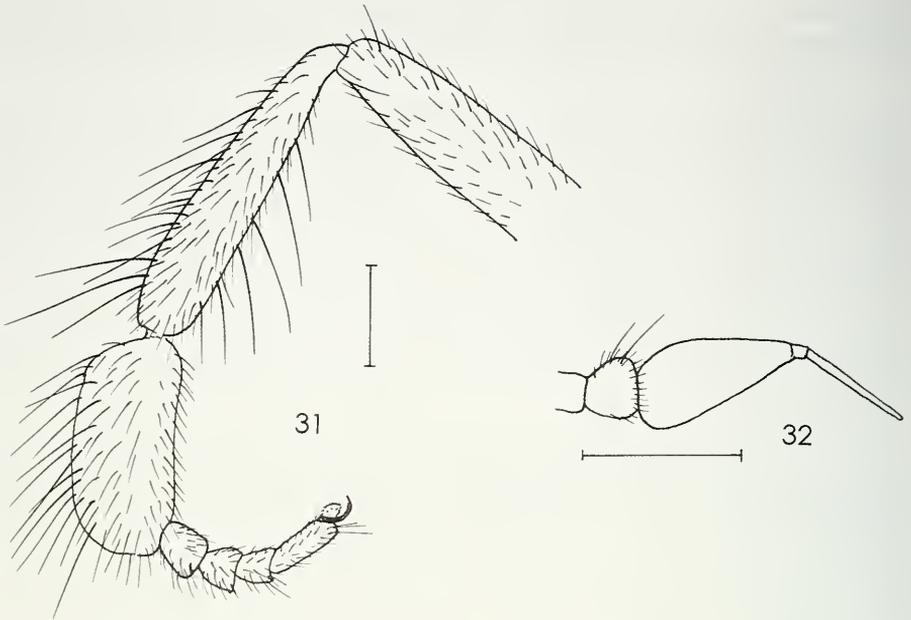
Male. Frons and face very broad, frons velvety black with a brownish patch above antennae, face dull grey, short, nearly light grey in some lights, vertex and occiput dull velvety black. Black ocellar and frontal bristles equally very long and thin, nearly as long as 3rd antennal segment including style, and longer than upper post-ocular occipital bristles. Occipital pubescence rather small and fine, although dense and uniformly black, upper postocular bristles forwardly curved. Antennae (Fig. 32) black, basal segments as long as deep, 3rd segment broad, and style slender, nearly as long. Palpi black, greyish pollinose beneath and finely short dark pubescent, and with a single very long black bristle before tip. Labrum short, scarcely half as long as head is high.

Thorax dull grey, pleura, and prosternum in particular, lighter grey dusted. Thoracic pattern very much as in some species of the *H. andermattensis*-group: scutum when viewed from in front almost uniformly cupreous-brown dusted, in dorsal view first with 3 dull black stripes on lines of bristles, then the stripes coalesce and dorsum is deep black, leaving only postalar calli and scutellum cupreous, and in posterior view with 2 very pale cupreous lines between the rows of bristles. Large bristles black and in full number but rather fine and small, smaller than the ocellar and frontal bristles; *acr* irregularly 4-serial (less numerous anteriorly), *dc* 1-serial, all rather small and fine; a small *h* bristle, similarly fine *ih* and *ph*, 3 *npl* stronger, a fine black *pa* and last pre-scutellar pair of *dc*, 2 pairs of *sc*, the inner pair the longest thoracic bristles. Pronotum microscopically dark pubescent and with a fine black bristle on each side, prothoracic episterna and whole prosternum also between fore coxae covered with dense, minute black hairs; spiracles very dark.

Wings faintly brownish clouded, although in some lights nearly clear, with dark contrasting veins and a distinct dark brown stigma, and a small black costal bristle. Squama blackish with dark fringes, haltere black.

Legs uniformly black, finely greyish pollinose, especially on tibiae in some lights; f_1 almost bare except for a few preapical black bristly hairs dorsally, posterior four femora with longer dark hairs only ventrally, f_2 with a row of the usual strong black bristles anteriorly; f_3 with fine bristly hairs dorsally, and a row of anteroventral bristly hairs ending in 2 long, apically curved preapical bristles; t_1 (Fig. 31) stout and widening towards tip, densely long black bristled dorsally and posteriorly, the bristles on apical third of tibia more than twice as long as tibia is deep; t_2 with short black bristly hairs antero- and posteroventrally, and 2 short bristles dorsally before tip; t_3 short pubescent, somewhat longer bristles (not longer than tibia is deep) only anteroventrally; bt_1 (Fig. 31) very thickened, much wider than the already stout tibia, dorsally clothed with densely set long black bristly hairs nearly as long as the basitarsus is deep; following tarsomeres short and stout, almost as long as deep, and rest of tarsus is scarcely as long as basitarsus; posterior four tarsi rather slender and only short pubescent, also tarsomeres 3 and 4 on mid leg very short.

Abdomen dull, densely rather light grey to greyish-brown dusted, almost brownish on dorsum; pubescence short, dark, no distinct hind-marginal bristles,



FIGS 31-32

Hilara sirbitzmatrona sp. n. ♂ (A, Styria: Sirbitzkogel, holotype). (31) Fore leg in posterior view. (32) Antenna. Scale: 0.2 mm.

although hind margins of terga with longer hairs. Genitalia rather large and compact, mostly greyish dusted, concolorous with abdomen, only tips of lateral lamellae and hypandrium almost shining, and all lamellae covered with only minute dark hairs.

Length: body 3.3 mm, wing 3.7 mm (holotype).

Female unknown.

Holotype ♂: **Austria**: Sirbitzkogel. Collection Strobl, Admont (Sirbitzkogel = Zirbitzkogel, peak 2396 m high in the Seetaler Alpen, southern Styria) (BSA).

The holotype was placed in the so-called Type Collection of Strobl (Typen-Sammlung; see Chvála, 2008b: 164) as *Hilara matroniformis* Strobl, 1892 (see Chvála, 2008a: 49) as a species originally described by Strobl (1892b: 40) from the Mediterranean coast. This male, No. 1046 of the "Type Collection", was labelled "*matronif.* v. ? Beine ganz schwarz, ♂ Sirbitzkogel", thus as a probable blacklegged variety of the southern European *H. matroniformis*, and it was erroneously labelled by Morge in 1961 as "Typen-Exemplar" of *Hilara matroniformis* Strobl (for details see Chvála, 2004: 116).

DERIVATIO NOMINIS: The species name (epithet) is a compound word of the mountain *Sirbitz*-kogel, the type locality, and the original species name *matrona*, of which the Mediterranean *H. matroniformis* was derived by Strobl in 1892.

DISTRIBUTION: So far only known from the holotype collected in Austria.

77. *Hilara angoldanica* Lundbeck, 1913

REFERENCES: Collin (1961: 623), Chvála (2005a: 164) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: As it is obvious from the species name (epithet) it was described from England and Denmark, later found also in the south of Sweden, and at scattered lowlands localities in central parts of temperate Europe, south to the Alpine region. At most at altitudes of about 500 m. A spring species, in May and June in the Alps. Surprisingly not yet found in Austria.

MATERIAL EXAMINED: **Switzerland:** GE: Chancy, Vers Vaux (335 m) 1.vi.2002 1♂; Bernex, Chante-Merle (415 m) 16.v.1999 1♂; Cartigny, Moulin de Vert (350 m) 5.vi.2006 8♂ 3♀ (all *Merz*); Corsier, Port vi.2005 1♂ (*Besuchet*); Rés[erve] de Nant de la Dronde (400 m) 21.vi.2006 PL 1♂ (*Stucki*). ZH: Zürich, Höggerberg (530 m) 10.vi.1997 10♂ 3♀ (*Merz*); Embrach, Haumüli (400 m) 11.vi.1997 1♂ (*Zulliger*). **France:** Grand Bois, 30 km S of Lyon (440 m) 21.v.2006 7♂ 2♀ (*Barták*).

78. *Hilara aeronetha* Mik, 1892

REFERENCES: Collin (1961: 616), Chvála (2005a: 168) – description and illustration of male genitalia.

DISTRIBUTION: This species is morphologically very similar to the following species, *H. angustifrons*, and old faunistic records should be treated with caution. The two species can be distinguished by the combination of characters given by Chvála (2005a: 166-169). Mostly in central parts of temperate Europe, south to the Alpine region, the Pyrenees and the Romanian Carpathians. *H. aeronetha* seems to be more abundant in the Austrian Alps. A spring and early summer species, in the Alpine region for a short period from the middle of May to the middle of July, mainly in June. Strobl (1910: 69) recorded swarms in July at the Johnsbach valley in the Styrian Gesäuse.

MATERIAL EXAMINED: **Austria:** Styria: Admont, Kematengraben (950-1000 m) 14.vi.2000, 26.vi.2002 and 9.vii.2001 swarms; Haller Mauern, Mühlau, Esslingbach (900 m) 3.vii.2002 2♂; Gesäuse, Johnsbach (1050 m) 5.vii.2002 1♂ (all *Chvála*). **Switzerland:** TI: Mte. S. Giorgio, Meride-Cassina (580-900 m) 17.v.2006 1♂ (*Merz*). **Slovenia:** Julian Alps, Vrsnik, River Soča (485 m) 19.vi.2006 1♀; Gasparci, River Kolpa (310 m) 15.vi.2006 2♂; Čabor, River Čabranca (280-330 m) 15.vi.2006 11♂ 1♀; Spodnja Bilpa, River Kolpa (230-300 m) 15.vi.2006 3♂ (all *Plant*). **France:** Pyrenees, Ariège, Ax-les-Thermes (750 m) 8.vii.1990 3♂ 2♀ (*Barták*); Pyrénées-Orientales, Can Baills, 10 km SW Thuir (610 m) 11.vi.2007 4♂ (*Merz*).

79. *Hilara angustifrons* Strobl, 1892

REFERENCES: Collin (1961: 614), Chvála (2005a: 166) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: Very often confused with the morphologically similar *H. aeronetha* (see above) and old records are therefore not always reliable. Widely distributed species in Europe, common on the British Isles including Scotland, and from southern Scandinavia south to the Alpine region and the Pyrenees. In central parts of Europe only at higher altitudes and in mountains, for a long period from June to August, though everywhere rather rare. Strobl (1893: 89) recorded it in the Styrian Alps as a “not rare” species at several sites in the close vicinity of Admont, for details on the specimens, see Chvála (2004: 125).

MATERIAL EXAMINED: **Austria:** Styria: Gesäuse 16.vii.1885 1♂; Admont, Schafferweg 18.vii.1885 1♀; Admont, Kalkofen at Kematen 15.viii.1891 3♂ 2♀ (all *Strobl*); Hieflau 10.viii.1891 1♂ 1♀ (*Mik*); Haller Mauern, Mührlau, Mühlauerbach (850-900 m) 11.viii.1998 1♂, 25.-28.viii.1999 2♂ 1♀, 3.vii.2002 1♀ (*Chvála*). **Switzerland:** TI: Piora (1880 m) 23.vii.1981 1♀ (*Sauter*). **Slovenia:** Julian Alps, Pohorje Mts (1300 m) 17.vi.2006 1♀ (*Plant*).

80. *Hilara caerulescens* Oldenberg, 1916

REFERENCES: Chvála (2002a: 71) – description and illustration of antenna, male fore leg, and genitalia.

DISTRIBUTION: A species of warm regions of temperate central parts of Europe (Czech Republic, Slovakia), although in the Alps it prefers higher altitudes from 600 m up to 2200 m. A typical spring species, in the Alpine region from 5 April to 12 July. In Switzerland, where it is fairly common, mainly in April and May. At Lenzerheide the males were observed by the second author (BM) swarming in large numbers over snow patches.

MATERIAL EXAMINED: **Austria:** Lower Austria: Krems env., Dürnstein 3.vi.2006 1♂ (*He man*). **Switzerland:** GR: Lenzerheide, Sanaspans (1700-1900 m) 18.v.1997 6♂ (*Merz & Eggenberger*). VS: Leuk, Platten (630 m) 22.iv.1998 1♂ 4♀ (*Merz & Botta*), same (650 m) 5.iv.2007 2♂ 4♀, (625 m) 2.v.1999 5♂ 4♀ (all *Merz*); Leuk, Brentjong (900 m) 19.v.1996 1♂ (*Merz & Bächli*); Leuk, Pfywald 23.iv.1998 1♂ (*Merz & Botta*); Forêt d'Aletsch (1900 m) 26.vi.1975 1♂; Aletsch, Riederfurka, Hohfluh (2000-2200 m) 3.vii.1996 1♂ (all *Haenni*). **Italy:** Tyroler Dolomiten, Tschamintal (1300-1400 m) 12.-27.vi.1914 9♂. BZ: Tiers 16.-22.vi.1914 3♂ (all syntypes, *Oldenberg*). **France:** Hautes-Alpes, Montgenevre (1800 m) 12.vii.1990 2♂ (*Barták*).

Group 10 – *H. andermattensis*-group

For a characterization of this group, and a revision of the seven up to recently known Alpine species, see Chvála (1999a).

81. *Hilara helvetica* Chvála, 1999

REFERENCES: Chvála (1999a: 36) – description of male, and illustration of head, male fore leg and genitalia.

DIAGNOSIS: A medium-sized dull velvety black species about 3 – 3.3 mm long, with labrum at least as long as head is high, f_1 with short hairs posteriorly, and a stout antennal style. Male genitalia unusually large, and both t_1 and the very thickened bt_1 in ♂ covered with long setae. Female remained unknown until now.

DESCRIPTION:

Female. Frons very broad, dull black, with only a small greyish patch above antennae, face as wide, but greyish. Antennal style stout, and only slightly shorter than segment 3. Palpi blackish, ventrally with a single very long seta in apical third about half as long as labrum, which is at least as long head is high. Scutum greyish in anterior view, in anterodorsal view with 3 blackish stripes on the lines of 2-serial *acr* and 1-serial *dc*, in dorsal view almost velvety black; when viewed from behind with narrow greyish lines between the rows of bristles, prescutellar depression and scutellum greyish. Wings as in male, very slightly clouded, veins very dark, but the blackish squa-

mae with whitish fringes. Legs rather slender, t_1 dorsally at about middle with a single black seta as long as tibia is deep, t_2 only short pubescent, t_3 slender and simple, unmodified, and only dorsally with 2 longer black bristles at middle and before tip as long as tibia is deep. Tarsi unmodified but longer than in male, bt_1 about 3 times as long as deep, 2nd tarsomere about twice as long, and 3rd and 4th tarsomeres on fore leg as long as deep. Abdomen finely silvery-grey pollinose, pubescence short and blackish, hind-marginal bristles absent. Length: body 3.3 mm, wing 3.3 mm.

DISTRIBUTION: Swiss and Italian Alps. The species was described on the basis of 2♂ from Zernež in the Swiss Alps, but now an additional pair was found in the collection of W. Schuse in the Dresden Museum, collected by L. Oldenberg in the northwestern Italian Alps.

MATERIAL EXAMINED: **Switzerland**: GR: Zernež, Gondas (1480 m) 4.viii.1996 2♂ (*Merz & Bächli*). **Italy**: VB: Macugnaga 2.viii.1900 1♂ 1♀ (*Oldenberg*).

82. *Hilara maior* Strobl, 1910

SYNONYM: *Hilara tatra* Niesiolowski, 1991, **syn. n.**

REFERENCES: Chvála (1999a: 38) – description and illustration of male fore leg and genitalia.

DIAGNOSIS: This large-sized species of the *H. andermattensis*-group was originally described by Strobl (1910) as a variety of *Hilara longevittata* [sic] Zetterstedt sensu Strobl, and later also by Niesiolowski (1991) as *Hilara tatra* from the Polish Carpathians. For more details on the morphology of this species see below under *H. parvimaior* sp. n.

DISTRIBUTION: *H. maior* is the only species of the *H. andermattensis*-group which is not endemic in the Alps, as it is known also in from the Slovak and Polish Carpathians (High Tatra Mts). High mountain summer species, at altitudes above 1600 m, mainly in August.

MATERIAL EXAMINED: **Germany**: Allgäuer Alpen, Hinterstein 29.vii.1925 2♀ (*Oldenberg*). **Austria**: Styria: Gesäuse, Johnsbachalpen, above Wolfbauern 4♂ 2♀ (syntypes); Haller Mauern, Natterriegel (1700–2000 m) 22.viii.1891 1♂ (all *Strobl*); Schladminger Tauern, Sölkerpass (1900 m) 6.–8.viii.1995 2♂ 1♀ (*Barták*). Tyrol: Grossglockner (2000–2250 m) 31.vii.1988 12♂ 2♀ (*Barták*); Kals am Grossglockner, Teichnitztal (2200 m) 24.vii.1982 1♀ (*Havel*). **Switzerland**: BE: Grimsel, 17.viii.1899 1♀ (*Escher-Kündig*). VS: Grimselpass, Totensee (2200 m) 8.viii.2006 1♂ 1♀ (*Haenni*). GR: Ausserferrera, Alps Moos (2250 m) 20.viii.1993 1♀ (*Merz*).

NOTES ON ITS SYNONYMY: Thanks to Dr J. Wiedeška of the Lódž University the first author (MC) had the opportunity to study the only specimen of *Hilara tatra* Niesiolowski, the holotype ♂ collected on 14.vii.1986 by S. Niesiolowski at the “source of Str Żyski Stream (1100 m)” in the Polish Tatra Mts; it “was caught on streamside plants”. The holotype was labelled as partly mounted on a microscope slide, partly as kept in an alcohol vial. The microscope slide includes *two* (!) conspecific fore legs, both genital lateral lamellae, both cerci (as illustrated in the description of *H. tatra*), and the tip of hypandrium. Its examination shows that on both sides before the tip there is only a single sharp projection, not several teeth as drawn on the illustration of Niesiolowski (1991: 80, Fig. 2.5). The specimen kept in the alcohol vial, and

labelled as holotype of *H. tatra* as well, possesses left fore leg, and it is clearly a male of *H. maior* Strobl. It is evident that the structures kept in the microscope slide (with both fore legs) belong to a different species. Based on the original description, and the male specimen kept in the alcohol vial (labelled by Niesiolowski as holotype and with the same data of capture as in the description), the species *Hilara tatra* Niesiolowski, 1991, is a junior synonym of *Hilara maior* Strobl, 1910 (new synonymy).

83. *Hilara parvimaior* sp. n.

Figs 33-35

DIAGNOSIS: A small, body 2.3 – 2.8 mm long, uniformly dull velvety black species of the *H. andermattensis* group. Labrum short, occiput and scutum uniformly black, *acr* small and narrowly 2-serial, wings brownish. Legs uniformly black and short pubescent, *bt*₁ in ♂ short and very thickened, tarsi short with tarsomeres as long as deep, and ♀ *t*₃ distinctly thickened and curved.

DESCRIPTION:

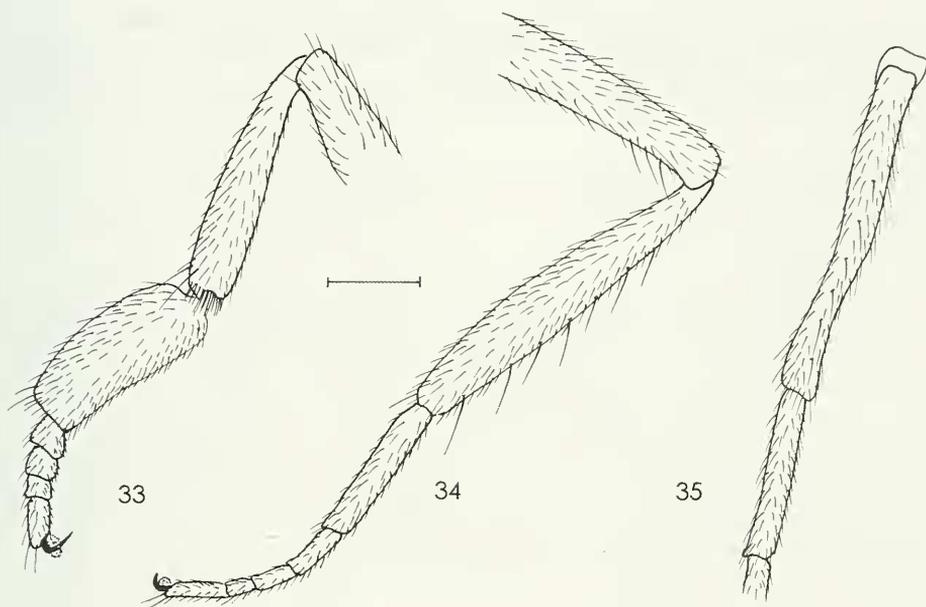
Male. Frons and face very broad; frons, vertex and occiput dull black, only face and a small patch just above antennae greyish. All hairs and bristles on head black, ocellar setae as long as antennal segment 3 without style, frontal setae only indistinctly smaller, upper postvertical setae smaller. Antennae black, style slender, two-thirds length of segment 3. Palpi black bristled beneath, the single preapical ventral seta very long, as long as labrum; latter short, half as long as head is high.

Thorax uniformly black, pleura with a slight silvery-grey tomentum, varying in size and sharpness in different points of view. Scutum as in *H. maior*, in anterior view finely brownish grey dusted with 3 darker stripes on lines of bristles which are also visible in anterodorsal view, when viewed from above and behind uniformly dull velvety black, only scutellum and a small prescutellar area brownish. All setae black, *acr* narrowly 2-serial, widely separated from 1-serial *dc*, all small and fine, numerous (more than 12 setae in one row), *acr* only minute posteriorly. Large marginal bristles in full number, including a distinct bristle on each side of pronotum, the inner pair of *sc* the longest, other setae about as long as ocellar setae.

Wings faintly brownish, veins blackish, stigma not very distinct because of the brownish colour of the wing; costal seta as long as last two pairs of long prescutellar *dc*; radial fork long and rather narrow. Squama blackish with black fringes, haltere uniformly black.

Legs uniformly black, very finely silvery-grey pollinose, rather short and stout, and covered mostly with fine, very short black pubescence; *f*₁ short pubescent even posteriorly, a few longer setae only anteroventrally before tip, similarly like *f*₃; only *f*₂ with the usual anterior row of long black setae; *t*₁ as in Fig 33, *bt*₁ very thickened and not much shorter than corresponding tibia, covered with short hairs only, following tarsomeres 2-4 very short, on both anterior two pairs as long as deep; tibiae with only a single dorsal preapical seta, otherwise finely short pubescent; *t*₃ dorsally with several longer, fine dorsal setae.

Abdomen dull black, somewhat subshining in dorsal view only, pubescence short, black, hind-marginal bristles fine and more distinct on posterior terga. Genitalia small, simple as in other species of the *H. andermattensis* group of species, but the narrower terminal part of hypandrium rather stout, and conspicuously polished black.



FIGS 33-35

Hilara parvimaior sp. n. ♂ (CH, VS: Lötschental, Fafleralp, holotype). (33) Fore leg in anterior view. ♀ (I, Aosta, St. Denis). (34) Hind leg in anterior view. (35) Hind tibia with basitarsus in dorsal view. Scale: 0.2 mm.

Length: body 2.8 mm, wing 3.2 mm (holotype).

Female. All main characters, including colouration and structure of head and thorax, the pattern of scutum, and bristling on head, thorax and legs, as in male; wings similarly distinctly brownish clouded. Legs with similar bristling and haring, fore tarsus unmodified, and tarsomeres 2-4 on anterior two pairs also very short as in male; t_3 (Figs 34-35) distinctly thickened, nearly as wide as corresponding femur, and distinctly curved. Abdomen more subshining black, pubescence sparse, indistinct, hind-marginal bristles not developed.

Length: body 2.3 – 2.8 mm, wing 2.7 – 3.2 mm.

DIFFERENTIAL DIAGNOSIS: This species resembles at first sight very small specimens of *H. maior*, differing chiefly besides the small size by the short labrum (as long as head is high in *H. maior*), the darker brownish wings, and by the thickened and curved t_3 in the female. In the key *H. parvimaior* leads close to *H. zermattensis*, the only species of this group with similarly thickened and curved female t_3 , but the latter has a quite different pattern on scutum, clear wings, whitish hairs at base of abdomen, and the fringes of wing squamae.

Holotype ♂: **Switzerland:** VS: Lötschental, Fafleralp: Uistertal 1900 m, 15.vii.2007, leg. J.-P. Haenni (MHNN).

Paratypes: **Switzerland:** GR: Strada, Muglin 1060 m, 13.vi.1980 1 ♀, leg. J.-P. Haenni (MHNN). **Italy:** AO: Aosta, St. Denis 880 m, 13.v.2006 4 ♀, leg. J.-P. Haenni (MHNN, 1 ♀ UMO).

DERIVATIO NOMINIS: A "small" (*parvus*) *H. maior*, a name emphasizing its close similarity (pattern of scutum, structure of legs) with the larger-sized *H. maior* Strobl.

DISTRIBUTION: Swiss and Italian Alps, from the middle of May to the middle of July.

84. *Hilara styriaca* Strobl, 1893

REFERENCES: Chvála (1999a: 45) – lectotype designation, description and illustration of male fore leg.

DISTRIBUTION: Austrian, Swiss and Italian Alps. A summer species, mainly in July and August. A characteristic Alpine species, occurring only rarely below 1000 m. According to Strobl (1893: 88) very common in the Styrian Scheibleggerhochalpe near Admont at high altitudes (5000-5500') in July and August.

MATERIAL EXAMINED: **Austria:** Styria: Scheibleggerhochalpe 27.vii.1891 5♂ 3♀ (syn-types, *Strobl*); Haller Mauern, Ardning, Ardningalm (1100 m) 27.vi.2002 1♂ 1♀; Grabneralm (1300 m) 8.viii.1998 6♀; Oberlaussa (900 m) 9.viii.1998 1♀ (all *Chvála*). **Switzerland:** VS: Visperterminen (1900-2200 m) 24.vii.1992 5♀ (*Merz*); Visperterminen, Bodma (1500 m) 4.viii.1998 1♂; Visperterminen, Rothorn-Giw (1900-2300 m) 30.vii.1998 2♀ (all *Merz & Bächli*). GR: Ftan, Clünas (2100 m) 1♀ (*Merz & Bächli*); Lenzerheide, Alp Sanaspans (2000 m) 7.viii.1998 1♀ (*Merz & Eggenberger*). **Italy:** Alpi Lepontine, V.S.Giacomo, Madésimo 30.vii.1910 2♂ (*Escher-Kündig*).

85. *Hilara merzi* Chvála, 1999

REFERENCES: Chvála (1999a: 41) – description and illustration of head, male fore leg, postabdomen and genitalia.

DISTRIBUTION: Austrian, Swiss and Italian Alps. A common species of the Alpine zone at altitudes above 2200 m. Mostly an early summer species, in July and in the beginning of August.

MATERIAL EXAMINED: **Austria:** Tyrol: Oetzal, Obergurgl, Gaisbergtal to Hohe Mut (2400-2600 m) 7.viii.1981 1♂ (*Pont*). **Switzerland:** GR: Lenzerheide, Piz Danis (2250-2490 m) 12.-19.vii.1996 13♂ 3♀ (*Merz*), same (2497 m) 17.vii.1998 14♂ 8♀ (*Merz & Botta*); Valbella, Stätzerhorn (2574 m) 30.vii.1999 2♂ 4♀ (*Merz*); V. Laschadurella (2200-2450 m) 20.vii.1921 3♀; Mot Mezdi (2350-2500 m) 25.vii.1932 4♂; Fuorcla, Sassalb (2640 m) 29.vii.1932 6♂; Murtergrat (2550-2650 m) 21.vii.1929 5♂ 1♀; V. Laschadura, Stragliavita (2600 m) 27.vii.1930 1♀; V. Cluozza, Murtaröl (2400-2580 m) 19.vii.1929 2♀; V. Muraunza, Astas (2300-2700 m) 23.vii.1931 5♂ 1♀; V. Tantermozza (2400 m) 24.vii.1929 1♂; V. Dal Botsch, V. da Stabel chod (2300 m) 16.vii.1928 1♂ (all *Keiser*). **Italy:** BZ: Stelvio, 7.-11.viii.1909 3♂ 3♀; Stelvio, Pass (9,100 ft) viii.1910 1♂ 1♀ (all *Oldenberg*).

86. *Hilara zermattensis* Chvála, 1999

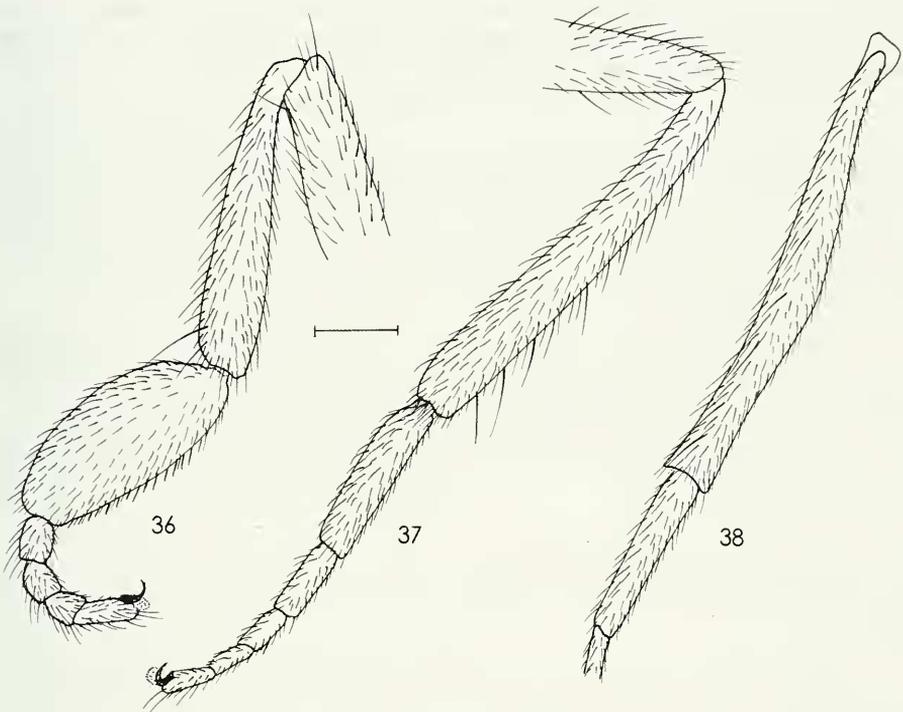
Figs 36-38

REFERENCES: Chvála (1999a: 48) – description of male.

DIAGNOSIS: Medium-sized species, body more than 3 mm long, with scutum and abdomen dull brownish, but thoracic pleura paler, striking bluish-grey. Scutum almost dull cupreous-brown with distinct shifting blackish stripes, *acr* 2-serial. The female remained unknown so far.

DESCRIPTION:

Female. Frons and face very broad, face dull grey as well as a small patch on frons just above antennae, otherwise frons, vertex and occiput uniformly dull velvety



Figs 36-38

Hilara zermattensis Chvála ♂ (A. Styria: Styriae alp., paratype). (36) Fore leg in posterior view. ♀ (CH, AI: Appenzell, Seealp, S.Ombell). (37) Hind leg in posterior view. (38) Hind tibia with basitarsus in dorsal view. Scale: 0.2 mm.

black. All hairs and setae on head black, including fine setae on lower part of occiput below neck; ocellar and frontal setae fine and both equally long, longer than upper occipital bristling. Antennae, with a fairly long slender style, and palpi as in male.

Thorax light greyish on pleura, scutum with the characteristic black pattern on the cupreous-brown background as in male: when viewed from in front scutum with 2 black stripes between lines of bristles, in dorsal view whole scutum extensively blackish, and in posterior view with 3 distinct black stripes on lines of bristles, the space between 2-serial *acr* and 1-serial *dc* pale brownish. All setae on thorax as in male, prothoracic episterna with a tuft of fine black hairs, but prosternum between coxae covered with whitish hairs.

Wings clear with distinct dark brown veins and a distinct dark stigma, squamae dark brown, with whitish fringes. Haltere uniformly black.

Legs uniformly black, finely silvery-grey pollinose, and like in male covered with only short fine hairs, a few longer dorsal setae on t_1 and t_3 at most as long as corresponding tibiae are deep; tarsi slender but short, tarsomeres 2-4 on anterior two pairs only very slightly longer than deep; t_3 (Figs 37-38) very much as in *H. parvimaior*, distinctly thickened, nearly as wide as corresponding femur, and slightly curved.

Abdomen dull cupreous-brown like scutum, though in side view in some lights almost shining black; pubescence inconspicuous, very pale on basal segment, whitish to light brownish, darker on posterior segments.

Length: body about 3 mm (abdomen shrivelled), wing 3.3 mm.

DIFFERENTIAL DIAGNOSIS: The main distinctive key characters are the short labrum, the deep black frons and occiput, the short, uniformly black legs with short tarsi and a very stout bt_1 in ♂ (Fig. 36), and the distinctly thickened and curved t_3 in ♀ (Figs 37-38). In the original description (Chvála, 1999a: 48) the illustration of male fore leg was by mistake omitted. The female is described here for the first time, and also the ♂ fore leg (Fig. 36) is illustrated here for the first time.

DISTRIBUTION: Austrian and Swiss Alps, in July and August. The 4♂ from Austrian "Styriae alp." are very probably the specimens misidentified by Strobl (1910: 68) as var. *anderlattensis* from the Styrian Natterriegel of end of July (7♂ 1♀).

MATERIAL EXAMINED: **Austria:** Styria: Styriae alp. 4♂ (paratypes, *Strobl*). **Switzerland:** VS: Zermatt 4.viii. 1♂ (holotype, *Becker*). AI: Appenzell, Seetalp, S. Ombell (1180 m) 22.vii.1985 1♀ (*Haenni*).

87. *Hilara anderlattensis* Strobl, 1892

REFERENCES: Chvála (1999a: 33) – description and illustration of head and male fore leg.

DISTRIBUTION: Swiss Alps. The species is still known only from the 4 syntype males collected by T. Becker in August at Andermatt. 2♂ are in ZMB, 2♀ in BSA collection.

MATERIAL EXAMINED: **Switzerland:** UR: Andermatt 8.viii. 4♂ (syntypes, *Becker*).

88. *Hilara simplicipes* Strobl, 1892

Fig. 59

REFERENCES: Chvála (1999a: 44) – diagnosis and lectotype designation.

DIAGNOSIS: A small, body about 2.0 – 2.5 mm long, dull velvety black species with black haltere and legs. All hairs and setae on body and legs black, *acr* widely 2-serial, and like uniserial *dc* long and bristle-like. Legs slender, male bt_1 unmodified, slender, and covered with fine short hairs, also t_3 in female long and slender.

REDESCRIPTION:

Male. Frons and face broad, dull velvety black to brownish black, also vertex and occiput dull black. All hairs and setae on head black, ocellar and frontal bristles equally very long and strong, about as long as antennal segment 3 with style, post-vertical and upper occipital bristles smaller but strong. Antennae black, segment 3 long triangular, and style rather stout, two-thirds length of segment 3. Palpi blackish, densely long black bristled beneath, 2 or 3 ventral setae conspicuously long and strong, at least as long as proboscis; labrum short, scarcely half as long as head is high.

Thorax uniformly dull velvety black to blackish-brown, also pleura extensively darkened, and all hairs and setae black. Scutum almost uniformly brownish-black when viewed from above, in frontal view there are 2 black stripes between lines of bristles on a lighter greyish background, when viewed from behind the black stripes

change to light greyish. Marginal setae very long and strong, especially last pair of *dc*, the inner pair of 4 *sc*, a *pa* seta, and one seta of 3 to 4 *ntpl*; *acr* widely 2-serial, the distance between the two rows equal to the distance between the rows of *acr* and *dc*, both fairly long and strong, longer than antennal style, and less numerous, less than 10 setae in one row.

Wings faintly brownish clouded, not clear, with distinct dark venation, a long radial fork, and very abbreviated anal vein; a long black costal bristle. Squamae blackish-brown with dark fringes, haltere uniformly black.

Legs rather slender, uniformly subshining blackish-brown, and densely covered with short fine dark pubescence, f_1 posteriorly and t_1 posterodorsally with hairs scarcely as long as corresponding legs are deep, the same applies to dorsal and ventral bristly hairs on f_3 ; only f_2 anteriorly with the usual long black setae. All tarsi slender and fairly long, covered with short hairs and unmodified, also bt_1 (Fig. 59) slender.

Abdomen dull blackish, densely short black pubescent, and all terga with distinct strong hind-marginal bristles. Genitalia were not dissected, but hypandrium is distinctly produced posteriorly, and lateral lamella, covered with sparse black hairs, seems to carry an indistinct apical process.

Length: body 2.2 – 2.6 mm, wing 2.8 – 3.3 mm.

Female. Very much like male in all details, only legs are covered with shorter hairs, and hind-marginal bristles on abdomen are less distinct. Legs quite simple and slender, even t_3 unmodified, long and slender.

Length: body 2.3 mm, wing 2.6 mm.

DIFFERENTIAL DIAGNOSIS: A species of the *H. andermattensis* group, which is easy to be recognized by its small size, the short pubescent slender and unmodified legs also in male, and by the other main key characters.

DISTRIBUTION: This species, the only representative of the *H. andermattensis* group with unmodified slender fore leg in male, is still known only from the syntypes collected by Prof. Tief in Austrian Carinthia.

MATERIAL EXAMINED: Austria: Carinthia: Paternion 12.v. 3♂ 1♀ (syntypes) (*Tief*).

Group 11 – *H. borealis*-group

For a characterization of this group, and a revision of the European species, see Chvála (2005a: 171, 2008a: 124).

89. *Hilara borealis* Oldenberg, 1916

REFERENCES: Chvála (2002a: 66) – description and illustration of antenna, palpus, male fore leg and genitalia.

DISTRIBUTION: Central European species, only locally in lowlands, more often in highlands and especially in mountains. Besides the Alps fairly common at altitudes above 800 m, for instance in the Czech Krkonoše Mts, the Slovak and Polish West Carpathians, in the Czech Šumava Mts and German Böhmerwald. A spring and rather early summer species, from the end of April to the beginning of August.

MATERIAL EXAMINED: **Austria:** Styria: Obertauern, Tweng, Taurbach (1200 m) 17.vi.2000 2♂; Schladminger Tauern, Schladming, Untertal (1000 m) 6.vii.2001 1♂ 1♀; Sölkpass, Innere Grosssolk (1300 m) 7.vii.2001 1♂ 1♀; Haller Mauern, Oberlaussa, Polzanbach (750-850 m) 24.v.2003 2♂, 18.vi.2000 4♂; Admont env. (640-700 m) 19.v.2003 1♂, 5.-9.vi.1996 3♂ 1♀; Weissenbach bei Liezen (700 m) 25.v.2003 common; Gesäuse, Johnsbach (1100 m) 6.-8.vi.1996 and 10.-15.vi.1997 swarms; Kaiserau (1100 m) 6.vi.1996 9♂ 7♀, 10.-15.vi.1997 swarms; St. Gallen, Buchaubach 9.vi.1996 2♂ (all *Chvála*). Salzburgland: Gastein 29.vi.1907 1♂, 1.vii.1907 1♀ (*Oldenberg*). Carinthia: Hermagor 25.-30.v.1928 4♂; Mauthen 5.vii.1928 1♀; Kl. Fleiss 14.viii.1907 2♂ (all *Oldenberg*). **Switzerland:** GR: Engiadina Bassa, Ramosch (1050 m) 11.vii.1961 1♂ (*Keiser*). ZH: Zürich, Katensee (440 m) 19.iv.1997 1♀ (*Merz*). VS: Visperterminen, Rothorn-Giw (1900-2300 m) 30.vii.1998 1♂ (*Merz & Bächli*). **Slovenia:** Julian Alps, Pohorje Mts 17.vi.2006 2♂ (*Plant*).

90. *Hilara medeteriformis* Collin, 1961

REFERENCES: Chvála (2005a: 173) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: From the North Sea and Baltic coast (British Isles, Netherlands, south Sweden, Bornholm) south to the Pyrenees and Romania. Widely distributed in temperate central parts of Europe both in lowlands and in mountains, as for instance in the Czech Šumava Mts and Slovak West Carpathians, in the Velká Fatra Mts, but never common. For a long period from May up to the beginning of September, though in temperate Europe rather an early summer species, most often in June and July.

MATERIAL EXAMINED: **Austria:** Styria: Admont, on window (640 m) 11.vii.2008 1♂ 2♀ (*Chvála*). **France:** Vosges, Quleux 2.-10.viii.1990 MT 3♂ 2♀ (*Pont*); Pyrenees, Ariège, Ax-les-Thermes (750 m) 8.vii.1990 1♂ (*Barták*).

91. *Hilara calinota* Collin, 1969

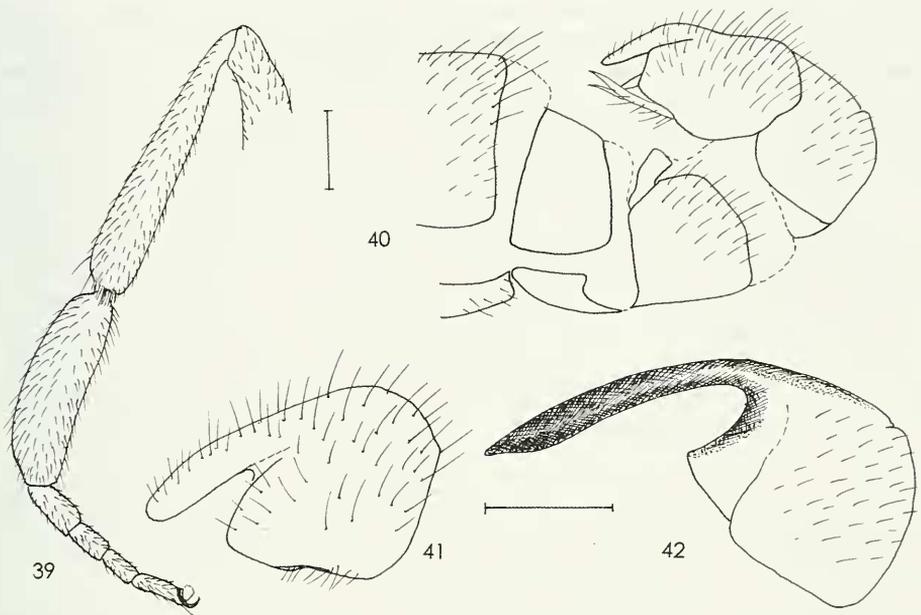
Figs 39-42

DIAGNOSIS: Medium-sized (body about 3-3.5 mm long), rather dull light grey dusted species with contrasting velvety black head, scutum with small numerous 4-serial *acr* on a broad reddish-brown median stripe. All bristles small and fine, legs blackish and practically without distinct setae, ♂ *bt*₁ long ovate and only slightly thickened, ♀ *t*₃ very slender, unmodified. Wings clear, haltere blackish, and abdominal pubescence pale.

REDESCRIPTION:

Male. Head with a very wide frons and face, the latter light dull grey, frons, including vertex and occiput contrasting velvety black; sometimes frons right above antennae translucent greyish. Ocellar and frontal bristles equally long and fine, about as long as antennal segment 3 without style, vertical and occipital bristling much shorter. Antennae black, segment 3 fairly long, style much shorter, slightly thickened, of half-length. Palpi black, densely greyish dusted, ventrally with numerous, equally long, fine black bristly hairs. Labrum shorter than head is high, about three-quarters of its height.

Thorax uniformly densely light grey dusted both on pleura and scutum, with 4-serial *acr* and widely separated 1-serial *dc* very small and fine, both numerous, about 18-20 setae in one row; *acr* lying on a reddish-brown median stripe, which is widening when viewed from above, and then *dc* lying on narrow blackish lateral lines. All



FIGS 39-42

Hilara calinota Collin ♂ (F. Drôme. Col de Tourniol). (39) Fore leg in anterior view. (40) Postabdomen (macerated). (41) Lateral genital lamella. (42) Hypandrium. Scale: 0.2 mm.

thoracic setae black, including small hairs in notopleural depression, marginal setae (1 *ph*, 3 *npl*, 1 *sa* and *pa*, 2 prescutellar pairs of *dc*, and 2 or 3 pairs of *sc*) small and fine; *h* and *ih* setae inconspicuous. A long black seta on each side of pronotum.

Wings clear, with a whitish tinge in some lights especially in living specimens, veins blackish-brown, distinct; wing stigma rather faint, a long radial fork, and costal seta small and fine. Squamae whitish-grey with whitish to light brownish fringes, haltere blackish, base of stem more brownish.

Legs uniformly blackish, sometimes with a tendency to be more blackish-brown in ground colour, femora more or less finely silvery pilose beneath; they are generally short and strong, covered with only short indistinct hairs, no distinct setae except for a rather short black anterior setae on f_2 , an unusual conspicuously long ventral seta at base of f_2 , and 1 or 2 longer anteroventral setae on f_3 before tip; t_3 with only 2 longer dorsal setae (at middle and before tip) at most as long as tibia is deep; t_1 and bt_1 (Fig. 39) covered with short hairs only, bt_1 long uniformly oval, long, at least three-quarters length of corresponding tibia; all tarsomeres slightly longer than deep, and covered with only minute hairs.

Abdomen dull grey, covered with short, fine whitish hairs, hind-marginal bristles inconspicuous, only on posterior terga longer and almost blackish. Genitalia (Figs 40-42) rather small, not wider than abdomen at tip; hypandrium greyish pollinose, apical half heavily sclerotized and uniformly stout; lateral lamella subshining, terminal process also rather evenly stout and blunt-tipped.

Length: body 3.1 – 3.5 mm, wing 4.0 – 4.1 mm.

Female. Very much like male in all details, only legs unmodified, fairly long and slender, t_3 also simple and very slender, and legs practically without longer setae, f_2 anteriorly short pubescent, and the long basal ventralsetae of male absent. Abdominal pubescence darker, some hairs on basal terga almost blackish.

Length: body 2.8 – 4.0 mm, wing 3.3 – 3.8 mm.

DIFFERENTIAL DIAGNOSIS: Considering its general structure and the main features of the *H. borealis*-group, *H. calinota* needs comparison especially with *H. pruinosa* and *H. medeteriformis*. The former is a larger species (body 4-5 mm long), with similarly short antennal style, but the frons is dull grey, the frontal setae are absent, *dc* are 2- to 3-serial, legs are densely golden-yellow pubescent, and wings are brownish. *H. medeteriformis* is a somewhat larger-sized species with a dull grey frons, and further it differs from *H. calinota* by the characteristically brownish scutum with a bluish-grey pattern, and the antennal style is long, as long as segment 3.

DISTRIBUTION: Described by Collin (1969) from the Swiss Alps, and later found also in other mountains in central temperate Europe. A fairly common species for instance in the Czech Šumava and Jeseníky Mts, the Slovak Malá Fatra Mts of West Carpathians, and also in the German Bayerischer Wald, often in mountains above 1000 m. A typical spring species, only in May and June.

MATERIAL EXAMINED: **Austria:** Styria: Gesäuse, Johnsbach (1000 m) 15.v.2000 1♂; Ennstal, Frauenberg, Edelgraben (680 m) 23.v.2003 4♂ 1♀; Radmer near Hieflau, Weissenbach (650 m) 24.v.2003 1♂ 1♀; Weissenbach bei Liezen (700 m) 25.v.2003 1♂; Haller Mauern, Ziernitz (700 m) 9.vi.1996 1♂ 2♀; Gesäuse, Kaiserau (1100 m) 6.vi.1996 1♂ 1♀, 11.vi.1997 2♂ 1♀; Kalblingbach (1400 m) 15.vi.1997 2♂; Kalbling, Flizenbach (1500 m) 15.vi.1997 swarms (all *Chvála*). **France:** Drôme, Col de Tourniol (1050 m) 26.v.2006 1♂ 1♀ (*Barták*). **Switzerland:** GL: Linthal 7.vi.1913 1♂ (holotype), 1♀ (paratype) (both *Oldenberg*). GR: Arosa (1700 m) 30.vi.1955 1♂ 1♀ (paratypes) (*Ringdahl*). VS: Jeitzinen/Untere Fäsälalp (2000 m) 3.vii.2001 1♂ (*Merz*). **Slovenia:** Julian Alps, Triglav, Aljažev dom (1100 m) 3.vii.1973 1♀ (*Chvála*); Bistrica, Slap Peričnik (775 m) 19.vi.2006 2♂ 1♀; Lepena (530 m) 19.vi.2006 1♂ 2♀; River Kolpa (310 m) 2♂ 1♀; River Čabranca (280 m) 9♂ 5♀, both 15.vi.2006; Pohorje Mts (1300 m) 17.vi.2006 21♂; River Soča, Vršnik (485 m) 19.vi.2006 2♀ (all *Plant*).

REMARK: Detailed information about the types are found in Pont (1995).

92. *Hilara lacteipennis* Strobl, 1892

DIAGNOSIS: ♀: body about 2.7 - 4 mm long, rather light grey dusted species, only frons and occiput partly velvety dark brown in some views. Abdomen, prothorax and fore coxae with whitish hairs, *acr* 2-serial on a brownish median stripe, t_3 evenly dilated and distinctly curved. Wings milky-white, veins indistinct, haltere yellowish-brown.

REDESCRIPTION:

Male unknown.

Female. Frons and face of usual width, face dull light grey, frons with a similar grey patch above antennae, otherwise velvety dark brown; also vertex dark brown, and upper part of occiput when viewed from above; seen from behind occiput quite grey. Upper row of postocular occipital bristles and ocellar bristles black, slightly longer than antennal style; frontal setae slightly smaller, as long as antennal style. Antennae

black, style half as long as 3rd segment, latter long and triangular-shaped (basal segments rather dark brownish). Palpi brown in ground colour, silvery-grey pollinose, finely light brownish (almost pale) pubescent, with 2 (or 1) fine pale ventral bristles. Proboscis very short, labium densely pale pubescent beneath.

Thorax uniformly densely rather light grey dusted, only spiracles contrasting dark, prothoracic spiracles almost blackish; *acr* and *dc* black, fine and small, half length of antennal style; *acr* rather narrowly 2-serial on a brown median stripe, *dc* 1-serial, lying on a very indistinct brownish line, becoming longer posteriorly, and ending in 2 long black prescutellar pairs. 1 black *h* bristle (as long and fine as a pair of ocellar bristles) and with several fine pale hairs anteriorly on humeri; 1 equally long *ph* and *ih* bristle, 3 *npl*, the median one the strongest, 1 *sa*, 1 stronger *pa*, and 2 pairs of *sc*; inner pair longer than the *pa* bristle, outer pair of 3/4 length. Notopleural depression with fine whitish hairs anteriorly, prosternum and prothoracic episterna indistinctly whitish pubescent, but pronotum with a fine, white bristly hair on each side about as long as frontal bristles (the bristle is dark brown in 1 ♀ "Ran, Südsteiermark, Strobl", "lact. ♀" of the Nachtrag Collection).

Wings milky-white, veins whitish (yellowish in the "Ran" specimen), inconspicuous, only bases of veins R and Cu yellowish, vein C (except for base) and apical section of R1 (distally of the junction of the complete Sc with C) dark brown. Anal vein distinct, although small (as long as antennal style), a black costal bristle. Squamae light brownish with white fringes, haltere uniformly yellowish-brown.

Legs blackish in ground colour, finely greyish pollinose, as well on tibiae, all coxae somewhat brownish (definitely paler than remaining legs), and "knees" narrowly yellowish. Pubescence mainly pale, all hairs and bristles only small and fine; f_1 with a row of very fine, dark posteroventral hairs not much shorter than femur is deep when viewed from above, ventrally femora almost bare; f_2 slightly narrower, posteriorly and anteroventrally finely short pale pubescent, anteriorly on basal half with 2 long black bristly hairs, shorter and more numerous bristles present on apical half; f_3 the stoutest, covered with fine short pale hairs, only anteroventrally before tip with 2 long blackish bristly hairs. Tibiae covered with short hairs; t_1 dorsally with a row of darker bristly hairs, 1 bristle in basal third above nearly as long as tibia is deep; t_2 with only 2 minute black anteroventral bristles in apical half; t_3 distinctly laterally flattened (not much narrower than femur) and curved, only dorsally short black bristled. Tarsi simple, covered with short hairs, only bt_3 stouter than following tarsomeres, and as long as rest of tarsus; all tarsi with tarsomeres 2-4 distinctly longer than deep.

Abdomen somewhat brownish in ground colour, densely greyish dusted, and finely whitish pubescent. Sides of anterior 3 terga with longer and denser white pubescence, hind-marginal bristles fine, present only at sides of terga 2-4, and darker than other pubescence. Cerci missing (broken).

Length: body 2.7 mm (without cerci, and with abdomen slightly curved), wing 3.1 mm (holotype of Melk); other specimens: body 2.7 – 4 mm, wing 3.1 – 3.6 mm.

DIFFERENTIAL DIAGNOSIS: Differing from *H. albitarsis* by the following characters: (1) frons except for a small grey triangle above antennae dull velvety black, but occiput (viewed from behind) grey; (2) *acr* 2-serial, *dc* 1-serial; (3) scutum with only one darker central stripe (on *acr*), lateral stripes very indistinct; (4) haltere light brown,

knob not darker; (5) abdomen much longer and whitish pubescent; (6) tibiae somewhat stouter, ♀ t_3 compressed and bent; (7) legs quite blackish-brown, only "knees" yellowish (not tarsi). *H. lacteipennis* resembles also *H. calinota*, but it differs by the well developed distinct black *h*, *ph* and *ih* bristles, the whitish wings with pale yellowish veins, and ♀ t_3 is thickened and curved; finally, *acr* are in *H. lacteipennis* 2-serial (although on a similar reddish-brown central stripe), only rarely they are anteriorly more numerous. *H. lacteipennis* needs comparison also with *H. pseudosartrix* Strobl.

DISTRIBUTION: Only a little known species, described by Strobl (1892a: 137) from Melk in Lower Austria, later recorded by Strobl (1910: 70) also from the valley of the River Enns in the Styrian Alps (Admont), and from Slovenia, from the vicinity of Sevnica (Lichtenwald) on the River Sava; for details, see Chvála (2004: 129). Further data are not available.

MATERIAL EXAMINED: **Austria:** Lower Austria: Melk (on window) 30.v. 1♀ (type). Styria: Admont 4.vii. 1♀ (all Strobl). **Slovenia:** "Ran, Süd-Steiermark", i.e. Brežice on the River Sava, 1♀ (Strobl).

93. *Hilara pruinosa* Wiedemann in Meigen, 1822

Figs 43-46

DIAGNOSIS: Large, dull grey dusted species, body about 4 – 5 mm long, with a wide greyish frons, and dull black vertex and occiput; antennal style very short. Scutum with dark lines on the narrowly 4-serial *acr* and 2- to 3-serial *dc*, haltere and legs blackish, and both legs and abdomen short, but densely almost golden-yellow pubescent.

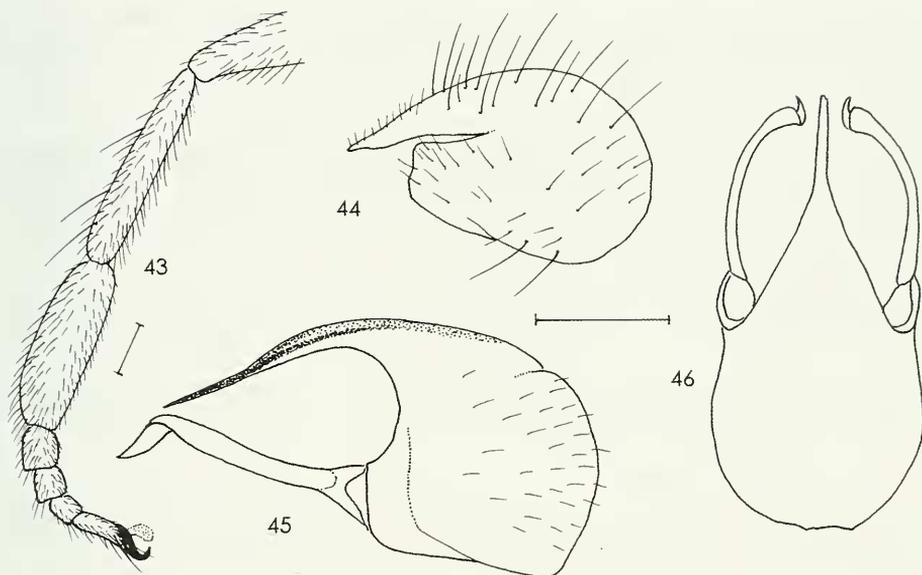
REDESCRIPTION:

Male. Frons and face very wide, both dull grey, vertex and occiput dull velvety black. Black ocellar setae small and fine, frontal setae quite absent, upper occipital bristly hairs rather small black, those on lower part of occiput below neck longer and pale, almost golden-yellow in colour. Antennae black, segment 3 very long, style short scarcely of half-length. Labrum fairly long, not much shorter than the height of head. Palpi black, silvery-grey pollinose, translucent brownish at tip, and ventrally densely clothed with long pale, almost whitish-yellow bristly hairs.

Thorax uniformly dull grey on pleura and scutum, all hairs and setae very small and fine: *acr* very narrowly nearly 2-serial anteriorly, posteriorly 4-serial, diverging, *dc* irregularly narrowly 2- to 3-serial; all these setae rather light brownish, lying on bronze to brownish narrow stripes; the stripes widened in dorsal view, and when viewed from behind two light grey stripes between the lines of bristles clearly visible, *acr* lay on a black central stripe (rarely indistinct), and sides of scutum laterally of *dc* largely uniformly velvety black. Large marginal setae inconspicuous except for 2 or 3 *ntpl*, a *sa* and *pa*, and 2 pairs of *sc*; *h*, *ph* and *ih* bristles practically absent. Pronotum with a rather strong light brownish seta on each side, slightly longer than the similarly coloured fine bristly hairs on prothoracic episterna and on humeri (postpronotum) at sides.

Wings not quite clear, slightly brownish clouded, with very strong blackish veins, a distinct dark brown stigma, and a fairly long, black costal bristle. Squamae whitish with concolorous fringes, haltere blackish, or uniformly blackish-brown.

Legs uniformly blackish, only "knees" narrowly brownish, and all parts of legs covered with pale hairs and bristles, though only the bristly hairs on coxae, posteriorly



Figs 43-46

Hilara pruinoso Wiedemann ♂ (CZ, Moravia, Podyjí). (43) Fore leg in posterior view. (44) Lateral genital lamella. (45) Hypandrium with postgonite in lateral view. (46) The same, in dorsal view (schematically). Scale: 0.2 mm.

on f_1 , and dorsally on t_1 (Fig. 43) towards tip longer; all femora clearly silvery-grey pollinose, especially beneath, and the ventral hairing on tibiae and tarsi almost golden-yellow. Fore leg as in Fig 43, bt_1 oval, evenly thickened and not much shorter than corresponding tibia, dorsally with longer hairs, and following tarsomeres 2-4 short and stout, not longer than deep; also tarsi on posterior two pairs short, especially on tarsomeres 3-4.

Abdomen uniformly contrasting light grey to silvery-grey dusted, leaving hind margins of terga very pale; pubescence almost whitish, short and fine, longer hairs at sides of basal 2 or 3 terga, and hind-marginal bristles absent. Genitalia (Figs 44-46) contrasting subshining dark brown, small; lateral lamella apically with very pointing, long terminal process; hypandrium unusually long and thin on apical half, heavily sclerotized towards tip.

Length: body 4.5 – 5.0 mm, wing 4.0 – 4.5 mm.

Female. Very much like the male in all details, only abdomen dull brownish-grey when viewed from above. Wings perhaps more brownish clouded, and abdomen covered with only short pale hairing. Legs with simple fore legs, fore tarsomeres 2-4 also nearly only as long as deep, and t_3 uniformly long and slender, unmodified, not curved, perhaps only indistinctly widening towards tip, and covered with short hairs only.

Length: body 3.6 – 4.3 mm, wing 3.5 – 4.5 mm.

DIFFERENTIAL DIAGNOSIS: A very characteristic species, with the very small and fine pale irregularly 4-serial *acr* and 2- to 3-serial *dc* on the reddish-brown stripes,

turning to black in posterior view. The small setae are unusually numerous, in one row at least 20 small setae of both *acr* and *dc*. For the distinguishing characters see the key, and the differential diagnosis of *H. calinota*.

DISTRIBUTION: A south European species, distributed north from the Mediterranean to the Alpine region, and to warm lowlands of central parts of Europe (Czech Republic, Slovakia, Poland and Hungary). Absent in high mountains. Early spring species in temperate Europe, in April and May. Strobl (1893: 90) recorded it from Austrian Carinthia as a not rare species.

MATERIAL EXAMINED: **Austria:** Carinthia: Villach 1♂; Rennstein 9.v. 2♂ 1♀; Bleiröhrenfabrik bei Villach 1.v. 1♀ (all *Tief*). **Switzerland:** TI: Gordola, Gaggiolo (250 m) 2.iv.2007 1♂ 1♀; Mte. S. Giorgio, Meride-Cassina (580-900 m) 17.v.2006 3♀ (all *Merz*); Ascona 15.iv.1946 1♂ (*Ghica*); Besazio (490 m) 4.v.1979 1♀; Mendrisio 5.v.1979 1♀ (all *Hoenni*); Davesco, Navre (520 m) 2.v.1996 1♀ (*Pollini*); Novaggio 10.v.1916 1♂ (*Escher-Kündig*). GR: Castagnola 29.iv.1910 3♂ 1♀. **Italy:** Pallanza 1.v.1900 2♂ (all *Escher-Kündig*).

Group 12 – *H. chorica*-group

For a characterization of this group, and a revision and keys of the European species, see Chvála (1997b, 1999b, 2005a: 177 and 2008a: 127).

94. *Hilara brevistyla* Collin, 1927

REFERENCES: Collin (1961: 635), Chvála (2005a: 179) – description and illustration of antenna, male fore leg, and genitalia.

DISTRIBUTION: From the British Isles and the south of Fennoscandia through temperate Europe to the Alpine region and Romania. One of the earliest spring species, in lowlands of central parts of Europe common in April and May. In mountains mainly at lower altitudes, in the Swiss Alps common approximately up to 700 m, in the Styrian Alps up to 900 m; on dates ranging from 29 March to 4 June, though mainly in April. Strobl (1892a: 115) recorded this species in Austria under the name *H. pinetorum* Zetterstedt (the latter is a younger synonym of *H. clypeata*, which was misidentified by Strobl as *H. clypeata* var. *brevifurca* Strobl).

MATERIAL EXAMINED: **Austria:** Styria: Admont (640 m) 28.iv.-7.v.2008 1♂ 5♀, 7.v.2009 1♂; Gesäuse Eingang, River Enns (620 m) 4.v.2008 and 10.v.2007 common, 18.-22.v.2003 2♀; Gesäuse, Johnsbach (860 m) 10.v.2009 2♂; Ennstal, Seebacher near Ardnig (640 m), willows 3.v.2004 3♂ 9♀; Haller Mauern, Buchauer Sattel (850 m) 9.v.2008 common; Mühlau, Esslingbach (800 m) 18.v.2003 1♂; Hieflau, Waaggraben (600 m) 24.v.2003 6♂ (all *Chvála*). **Switzerland:** GE: Chancy, La Laire (350 m) 9.iv.2007 3♂ 3♀, 18.iv.2003 3♂; Bernex, Signal (500 m) 27.iv.2007 1♂; Cartigny, Moulin de Vert (350 m) 22.iv.2000 7♂ 6♀, 29.iv.-1.v.1999 2♀ (all *Merz*); Avusy, Moulin de la Grave (370 m) 1.v.1999 6♂ 2♀ (*Merz & Dirickx*). TI: Biasca, Loderio (350 m) 29.iii.1994 1♀, 16.v.2006 1♂ 1♀; Magadino, Quartino (205 m) 2.iv.2007 common; Cadenazzo, Demanio (210 m) 2.iv.2007 4♂; Gordola, Verzasca-Ufer (205 m) 1.iv.2007 1♂ 1♀ (all *Merz*); Prosito, Moleno (250 m) 3.v.1979 1♂ (*Haenni*). VS: Leuk, Pfywald (630 m) 21.iv.1998 1♂ (*Merz & Botta*), 24.iv.1888 1♂ 1♀ (*Huguenin*). AG: Würenlingen, Bärengraben (450 m) 13.v.1998 4♀. ZH: Dietikon, Hardwald (400 m) 15.v.1995 3♂ 1♀; Embrach, Haumüli (400 m) 30.iv.1998 1♂ (all *Merz*), 30.iv.-4.vi.1998 common (*Wolf & Merz*); Zürich, Allmend (450 m) 23.iv.1994 1♀, 1.-8.v.1995-1998 common; Zürich, Waldgarten (500 m) 5.-24.v.1995-1998 common; Zürich, Zürichberg (450-670 m) 27.iv.-18.v.1995-1998 common; Zürich, Ziegelhütte (460 m) 13.iv.-11.v.1997-1998 1♂ 5♀; Zürich, Katensee (440 m) 19.iv.-25.v.1996-1998 common (all *Merz*).

95. *Hilara longivittata* Zetterstedt, 1842

REFERENCES: Collin (1961: 636), Chvála (2005a: 181) – description and illustration of male fore leg and genitalia.

DISTRIBUTION: A widely distributed species in Europe, throughout Fennoscandia including Lapland, south to the Alpine region and central parts of European Russia. Flight period from May to August. Not correctly recognized by Strobl (1892 – 1910) in the Styrian Alps, described as a new species, *H. bivittata* (Strobl, 1892a), and most of the Alpine forms or varieties of his “*H. longevittata*” [sic] represent several distinct high mountain species belonging now to the *H. andermattensis* group. In the Alps uncommon, always only single specimens, and only at altitudes between 600 and 1600 m.

MATERIAL EXAMINED: **Austria:** Vorarlberg: Bregenz v.1913 1♂, 1♀ (*Oldenberg*). Styria: Admont, Saugraben (700 m) 12.v.2007 1♂ 1♀, 19.v.2003 1♂; Hieflau, Waaggraben (600 m) 24.v.2003 1♂; Haller Mauern, Oberlaussa, Polzalmbach (700 m) 24.v.2003 1♂; Buchauer Sattel, Grossbuchau (850 m) 31.v.2009 1♂ 1♀ (in copula); Ardning, Ardningalm (1100 m) 27.vi.2002 1♂ 1♀ (all *Chvála*). **Switzerland:** GR: Ftan (1600 m) 19.vii.1994 1♂ 2♀; Lenzerheide, Sundroina (1520 m) 10.vii.1998 1♂ 1♀; Valbella, Casoja (1550 m) 13.vii.1996 1♀ (all *Merz*). BE: Hasliberg vii.1891 1♀ (*Escher-Kündig*). SH: Merishausen, Osterberg (770 m) 30.v.1996 4♂ 2♀. VS: Eggerberg (750-850 m) 23.v.1998 1♀ (all *Merz*); Jeitzinen (1550 m) 26.vi.1999 1♀ (*Merz & Eggenberger*). **Italy:** Tschamintal 17.vi.1914 (*Oldenberg*); Aosta, St. Denis (880 m) 13.v.2006 1♀ (*Haenni*).

96. *Hilara pseudochorica* Strobl, 1892

REFERENCES: Collin (1961: 638, as *H. woodi* Collin), Chvála (2005a: 183) – description and illustration of male fore leg and hind basitarsus, female hind tibia, and male genitalia.

DISTRIBUTION: Everywhere uncommon, but a widely distributed species throughout Fennoscandia, in temperate Europe south to the Alpine region, where it occurs mainly in lowlands, as in other parts of central Europe. It was found, however, in the Czech Krkonoše Mts (Riesengebirge) at altitudes of about 1250 m. For a long period from May to August, but most records from the Alps are from June. Strobl (1893: 90 and 1910: 67) recorded only several specimens in the valley of the River Enns in the Styrian Alps in the vicinity of Admont, although some of them belong to a different species, *H. biseta* Collin. Collin (1927) described it from England and Scotland as *Hilara woodi*.

MATERIAL EXAMINED: **Austria:** Styria: Admont, Krumau 26.vi. 4♂; Admont 12.viii.1892 1♂ (all *Strobl*); Admont, Stift pond (640 m) 8.vi.1996 1♀ (*Chvála*). **Switzerland:** GE: Chancy, Vers Vaux (335 m) 1.vi.2002 2♂; Dardagny, Le Moulin (360 m) 30.vi.2001 1♀ (all *Merz*). TI: Gordola, Bolle (220 m) 19.vi.1995 3♂ 3♀ (*Merz & Bächli*).

97. *Hilara chorica* (Fallén, 1816)

REFERENCES: Collin (1961: 643), Chvála (2005a: 186) – description and illustration of male fore leg, female fore leg and hind tibia, and male genitalia.

DISTRIBUTION: One of the most common *Hilara* species in Europe, from the extreme north including the Faroe Islands south to the Mediterranean. For a long period

from June to September, in lowlands of Switzerland already in the middle of May. In temperate Europe, and in the Alpine region commoner at higher altitudes, in central European mountains at altitudes to around 1500 m, often in large swarms above mountain streams and rivers.

MATERIAL EXAMINED: **Austria:** Oberösterreich: Totes Gebirge, Wurzeralm, Teichlbach (1400 m) 30.vi.2002 1♂ 1♀. Styria: Admont, River Enns (640 m) 13.-16.vi.2000 swarms, 2.vii.2001 4♂ 3♀; Admont, Saugraben (750 m) 9.vii.2008 1♂ (all *Chvála*). **Switzerland:** SG: Wattwil (610 m) 11.vii.1997 1♀ (*Merz*). AG: Aarau 20.vi.1926 1♂ (*Zürcher*). TI: Biasca, Loderio (350 m) 18.vi.1995 1♂; Tenero, Lido (205 m) 15.v.2006 1♀; Gordola, Bolle de Magadino (205 m) 6.vii.2000 1♀ (all *Merz*); Gordola, Bolle (220 m) 17.-20.vi.1995 8♂ 6♀ (*Merz & Bächli*). **France:** Gard, Dourbies, 1.7 km S, rive du Crouzoulous 15.vii.2009 1♀ (*Haenni*).

98. *Hilara aartseni* Chvála, 1997

REFERENCES: Chvála (2005a: 188) – description and illustration of male fore leg, male hind coxa with trochanter, female hind tibia, and male genitalia.

DISTRIBUTION: A widely distributed species, although often misidentified as *H. chorica*. From the British Isles and coast of the North Sea (Netherlands, Denmark) south through temperate Europe to French Provence and Corsica, but not yet recorded from Austria. A summer species, for a long period from the end of June to August. Mainly in lowlands, in mountains at low altitudes only.

MATERIAL EXAMINED: **Switzerland:** GE: Chancy, La Laire (350 m) 25.vii.2004 1♂. ZH: Embrach, Haumüli (400 m) 10.vii.1997 1♀ (all *Merz*), same 29.vi.1998 1♂ (*Wolf*).

99. *Hilara biseta* Collin, 1927

REFERENCES: Collin (1961: 639), Chvála (2005a: 190) – description and illustration of male fore leg, female hind tibia, and male genitalia.

DISTRIBUTION: From the British Isles and southern Fennoscandia, including Russian Karelia, through central parts of Europe to the Alpine region and Bulgaria. Mainly in lowlands, rather a late summer species, most records are from July and August, in England until the beginning of October.

MATERIAL EXAMINED: **Austria:** Styria: Admont (640 m) 12.viii.1892 1♂ (*Strobl*). Carinthia: Villach, Hermagor 1♂ (*Tief*) (all *H. pseudochorica*, det. Strobl). **Switzerland:** GR: Grono, Moesa (330 m) 31.viii.2006 3♂ 1♀ (*Merz*). ZH: Embrach, Haumüli (400 m) 23.vi.1998 1♂ (*Wolf*).

100. *Hilara triseta* Chvála, 2005

REFERENCES: Chvála (2005b: 104) – description and illustration of antenna, male fore leg, and male postabdomen.

DISTRIBUTION: A mountain species known so far from the Switzerland and the Slovenian Alps, and from the Bulgarian Stara Planina Mts. A species of early summer, from the middle of June to the beginning of August. In mountains at lower altitudes, from 400 to 700 m.

MATERIAL EXAMINED: **Switzerland**: VS: Leuk, Platten (623 m) 1.-3.viii.1998 2♀ (*Merz & Bächli*); Leuk, Rotafen (620 m) 10.viii.1997 2♀ (*Merz*). ZH: Embrach, Haumüli (400 m) 29.vi.1998 1♂ 1♀ (*Wolf*), 19.vi.1998 1♀, 3.vii.1996 1♂ (all *Merz*); Zürich, Ziegelhütte (460 m) 29.vi.-13.vii.1997 1♂ 8♀ (*Merz*). **Slovenia**: Gasparči, River Kolpa (310 m) 15.vi.2006 2♂ (*Plant*).

101. *Hilara pectinipes* Strobl, 1892

Fig. 47

REFERENCES: Chvála (1997b: 110) – diagnosis and illustration of male fore leg.

DIAGNOSIS: Medium-sized, body about 3 mm long, black species with subshining scutum, uniformly black haltere and legs, wings brownish. Legs short, t_1 in ♂ with several very long setae dorsally, bt_1 very thickened but covered with short hairs only, and t_3 in ♀ unusually strongly thickened at middle.

REDESCRIPTION:

Male. Head dull black on the wide frons, vertex and occiput, only face with a greyish tinge. All hairs and setae on head black and very long, the equally strong ocellar and frontal setae as long as antennal segment 3 with style and upper postvertical setae shorter. Antennae black, style rather slender and nearly as long as segment 3. Palpi blackish-grey, long black bristled beneath, labrum very short, scarcely half as long as head is high.

Thorax subshining black on scutum, pleura dull dark greyish; scutum when viewed from in front finely blackish-brown pollinose with duller black stripes between rows of bristles, in dorsal view scutum more subshining black, with duller grey prescutellar depression and between the rows of bristles. All thoracic setae long, black; *acr* rather narrowly 2-serial, *dc* 1-serial, all rather long and strong, as long as antennal style, and less numerous, about 10 setae in one row. Marginal setae are in full number, all very long and strong, only *h* and *ih* setae finer and smaller.

Wings brownish, a large costal stigma very dark brown, veins blackish, with radial fork long and almost parallel; a long black costal bristle. Squamae blackish with concolorous fringes, haltere uniformly black.

Legs black, rather short and strong, indistinctly finely silvery pollinose, and all hairs and setae black; f_1 with a very long anteroventral seta at tip, otherwise with only a row of posterior bristles not longer than femur is deep, also f_2 with the usual anterior bristles not conspicuously long, there are only several long anteroventral setae on apical third of f_3 ; fore leg as in Fig. 47, tibia with several (6-8) very strong, long setae dorsally, otherwise short pubescent, also the very stout bt_1 with only short hairs except for two small fine setae dorsally before tip, and all tarsomeres short and stout; posterior four tibiae, in addition to preapical bristles, mostly short pubescent, t_2 with several short spine-like bristles anteroventrally towards tip, and t_3 dorsally and ventrally with about 4 thin setae clearly longer than tibia is deep. Hind trochanter very much like as in *H. aartseni* with a characteristic spur-like anterior projection, and bt_2 posteriorly at base with a distinct brush of spine-like bristles.

Abdomen dull velvety black, densely short black pubescent, all terga with long hind-marginal setae. Genitalia small and closed, concolorous with abdomen, hypandrium small, lateral lamella with a small terminal process.

Length: body 2.8 – 3.2 mm, wing 2.6 – 3.0 mm

Female. The main differential features as in male, scutum perhaps more uniformly subshining black, and wings paler, almost clear. Legs simple, but t_3 very strongly thickened at middle, tips narrowed, and tibia at middle as deep as one-third of its length.

Length: body 3.0 – 3.2 mm, wing 2.8 mm.

DIFFERENTIAL DIAGNOSIS: This species belongs to a complex of species within the *H. chorica*-group which is characterized by a strongly long bristled fore leg in male, and strongly dilated, rather spindle-shaped t_3 in female as in *H. pseudochorica*. The other species of this complex have a clearly shining black scutum. The male of *H. barbipes* has also fore tarsus long bristled. *H. hystrix* carries, in addition to a vestigial frontal pair of setae, distinctly dilated t_2 which are covered with long, strong setae.

DISTRIBUTION: *H. pectinipes* is known up to now with certainty only from Austria, Germany and from the Czech Republic. A typical species of both lowlands and highlands, not a real mountain species, occurring in spring or early in summer, and all records from the Alpine region are from June. Strobl (1893: 88) recorded it also from Austrian Carinthia, but these specimens could not be traced in Strobl's Admont Collection, whereas all other specimens from the vicinity of Admont, recorded later by Strobl (1898: 205; 1910: 68), could be found in his collection. Very rare species, surprisingly not collected in Austrian Styria "after" Strobl.

MATERIAL EXAMINED: **Austria.** Lower Austria: Seitenstetten 12.vi. 2♂; Melk 12.vi. 4♀. Styria: Admont (640 m) 25.vi. 1♀; Admont, Krumau (640 m) 10.vi.1893 2♀ (all Strobl).

102. *Hilara barbipes* Frey, 1908

REFERENCES: Chvála (2005a: 194) – description and illustration of male fore leg, female hind leg, and male genitalia.

DISTRIBUTION: Described from Finland, and known up to now throughout Fennoscandia though everywhere uncommon and at scattered sites only. Further records are available from Scotland, and from mountains of central parts of temperate Europe (Czech Republic, Germany, Poland, Romania, Switzerland), always only single records. This species needs to be compared especially with *Hilara nadolna* Niesiolowski, 1986, known so far with certainty from Poland only.

MATERIAL EXAMINED: **Czech Republic:** Šumava Mts, Nová Hůrka (800 m) 24.vi.-28.vii.2000 MT, 1♂ (*Barták*). **Switzerland:** ZH: Embrach, Haumüli (400 m) 19.vi.1998 1♂ (*Merz*).

REMARK: This species is here recorded for the first time from Switzerland.

103. *Hilara hystrix* Strobl, 1892

Figs 48-50

DIAGNOSIS: A small, shining black species, body about 2.5 mm long, with all hairs and bristles black, brown wings, and black haltere. Thorax almost uniformly shining, *acr* very narrowly 2-serial and diverging, frontal setae vestigial. Legs short, t_1 and t_2 in male thickened and long bristled, t_3 in female very thickened at middle.

REDESCRIPTION:

Male. Frons and face not very wide, frons, vertex and occiput dull black, face more greyish, but covered by the very large, shining black clypeus. All setae on head

black but fine, ocellar setae as long as antennal segment 3 without style, frontal setae absent or very small. Antennae black, small, style clearly shorter than segment 3. Palpi black, ventrally with small black hairing, and with an unusually long, but thin, pre-apical seta. Labrum shorter than head is high, about two-thirds of its height.

Thorax almost uniformly shining black, pleura scarcely duller greyish, all hairs and setae black: *acr* very narrowly 2-serial and distinctly diverging, *dc* 1-serial, all small and fine, shorter than antennal style, and numerous, more than 10 setae in one row. Large marginal bristles long though fine, including the long *h* and *ph* setae, the inner pair of *sc* the longest, and pronotum with an unusually long and strong (!) seta on each side.

Wings conspicuously brown, with blackish veins, the dark stigma not very distinct on the brown wings; squamae with fringes, and haltere uniformly black.

Legs black, rather slender and subshining, with the exception of anterior four tibiae which are covered with short, black hairs, even the usual row of anterior strong bristles on f_2 is replaced by fine bristly hairs; t_1 (Fig. 48) with 6-8 very long setae dorsally, though they are clearly thin and fine, not as strong as in *H. pectinipes*, and tarsi covered with only short hairs (as in the latter species); t_2 (Fig. 49) is dilated in *H. hystrix* as on fore leg, but it bears dorsally two equal rows and ventrally one row, of unusually long and strong setae.

Abdomen dull black, slightly subshining in some lights, covered with very fine, short black hairs, and also the tergal hind-marginal bristles are very indistinct. Genitalia large, especially hypandrium produced posteriorly, in general very similar to that of *H. cornicula*.

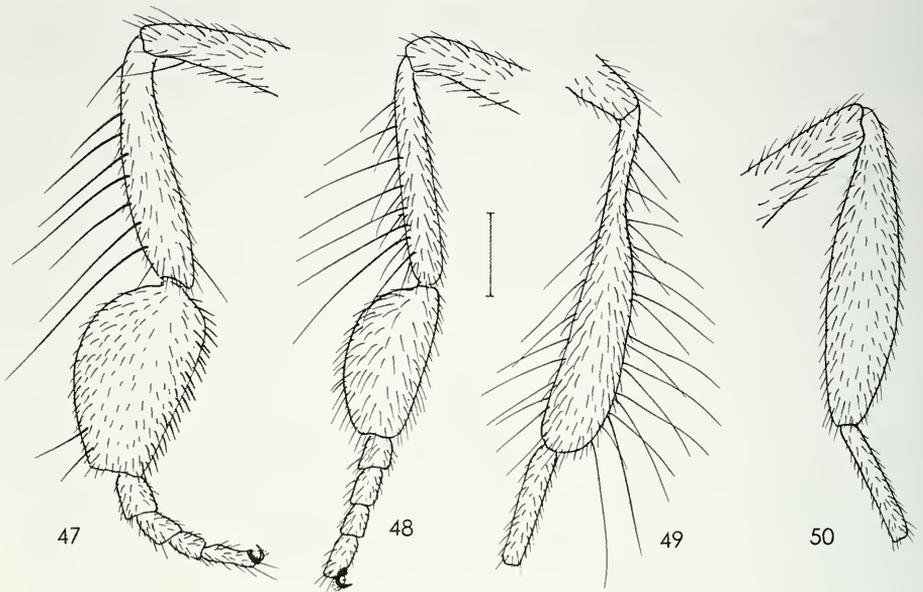
Length: body 2.5 – 2.8 mm, wing 2.8 – 3.0 mm.

Female. With the exception of the legs very much like the male, wings uniformly brownish as well, and all hairs and setae on scutum as in male. Legs uniformly subshining black, rather slender, t_1 unmodified and dorsally with several fine setae about as long as tibia is deep, t_2 also slender and covered with only short inconspicuous black hairs, whereas t_3 (Fig. 50) very thickened, but also only short pubescent; tarsomeres 2-4 on all pairs slender, slightly longer than deep, and covered with short hairs. Abdomen uniformly subshining, or nearly shining black, and covered with only minute, sparse black hairs.

Length: body 2.3- 2.5 mm, wing 2.5 – 2.6 mm.

DIFFERENTIAL DIAGNOSIS: *H. hystrix* is a smaller-sized species. As *H. barbipes* it is characterized by an almost shining black scutum. It can easily be distinguished by the very small and fine *acr* and *dc* setae on scutum, by the absence of frontal bristles, by the short pubescent fore tarsi in male, and especially by the very thickened and long, strongly bristled ♂ t_2 (Fig. 49) which is an unique character in this group of species. Females have similarly very strongly thickened t_3 (Fig. 50) as in *H. pectinipes*, *H. barbipes* and also as in *H. pseudochorica*.

DISTRIBUTION: A mountain species, described from the Austrian Alps, but later found besides the Alps as well in other parts of Central Europe, in the Czech Krkonoše Mts (Riesengebirge) and in the Polish West Carpathians. In the Alps for a long period from the end of May to August, at altitudes between 400 and 1100 m. Strobl (1893: 88:



FIGS 47-50

Hilara pectinipes Strobl ♂ (CZ, Bohemia, P edhradí, River Korunka). (47) Fore leg in posterior view. - *Hilara hystrix* Strobl (A, Styria, Kaiserau). (48) Male fore leg in posterior view. (49) Male mid tibia with basitarsus in anterior view. (50) Female hind tibia with basitarsus in anterior view. Scale: 0.2 mm.

1910; 68) recorded it in the Styrian Admont region as a common species in June and July. For further data on the syntypic series in Admont, see Chvála (2004: 129).

MATERIAL EXAMINED: **Austria:** Oberösterreich: St. Pankraz, River Steyer (490 m) 24.vi.2002 1♀, 29.vii.1997 1♂; Totes Gebirge, Hinterstoder, River Steyer (700 m) 8.vii.2001 1♂; Rossleithen, River Piessling (650 m) 8.vii.2001 2♂ 1♀ (all *Chvála*). Styria: Gesäuse Eingang (620 m) 16.vii.1891 1♀; Gesäuse 3.vi. 2♀, 18.vii. 1♀ and 6.viii.1898 1♀ (all *Strobl*), 25.vi.1891 1♀ (*Becker*); Admont, River Enns (620 m) 25.v.2003 1♂; Kaiserau, Kalblingbach (1100 m) 1.vii.2002 1♂; Haller Mauern, Esslingbach (900 m) 3.vii.2002 1♀; Mühlauerbach (1000 m) 25.-28.viii.1999 3♂ 3♀; Ennstaler Alpen, Oberlaussa (800 m) 9.viii.1998 1♀ (all *Chvála*). **Switzerland:** ZH: Embrach, Haumüli (400 m) 28.v.1997 1♂, 19.vi.1998 3♀ (*Merz*), same 27.v.-29.vi.1998 2♂ 3♀ (*Wolf*). **Slovenia:** Julian Alps, Gaspar i, River Kolpa (310 m) 15.vi.2006 1♂ (*Plant*).

Group 13 – *H. maura*-group

For a characterization of this group, and a revision of the European species, see Chvála (1997a, 2005a: 196, and 2008a: 131 for the descriptions of further new taxa).

104. *Hilara maura* (Fabricius, 1776)

REFERENCES: Collin (1961: 578), Chvála (2005a: 196) – description and illustration of male fore leg, hind femur, female hind leg, and male genitalia.

DISTRIBUTION: A widely distributed species in Europe, from the southern parts of Scandinavia and the Baltic coast of Finland to the Mediterranean region, where it is,

however, a rare species. Recorded also from mountains of Morocco in North Africa (Ifrane, Ghabat al Behar 1650-1700 m, 8.v.1981 1♂ leg. S. C. Sherman). In central parts of Europe one of the most common species from lowlands to mountains over 1000 m, often in large swarms of hundreds of individuals above water; in mountains of southern Europe frequently at altitudes around 1700 m. Mainly in early spring (May and June) rarely possibly with a second summer generation in August and even September. Strobl (1898: 205) surprisingly mentioned in the Styrian Alps only 2♀ of *H. maura* taken at Krumau near Admont, but the common occurrence of *H. diversipes* mentioned by Strobl on the same page, refers after examination of his specimens by the first author actually partly to *H. maura*, partly to *H. hybrida*.

MATERIAL EXAMINED: **Austria:** Oberösterreich: Steyer River N of Hinterstoder (500 m) 24.v.2009 2♂ (*Chvála*). Styria: Admont (640 m) 11.-19.v.2003-2008 7♂ 2♀; Admont, River Enns (620-640 m) 18.-25.v.2003 common; Frauenberg near Admont (680 m) 12.v.2008 1♂; Admont, Saugraben (700 m) 19.v.2003 1♂; Weissenbach bei Liezen (700 m) 25.v.2003 4♂; Haller Mauern, Oberlaussa, Polzalmbach (750 m) 24.v.2003 2♂ (all *Chvála*). Salzburgland: Salzburg, 10 km SE, River Almbach (565 m) 17.v.2003 common; River Lammer (800 m) 17.v.2003 common (all *Chvála*). **Switzerland:** GE: Chancy, La Laire (350 m) 18.-24.iv.2003 1♂ 1♀ (*Merz & Amiet*); Versoix 18.v.1930 6♂ 3♀, 27.v.1928 1♀ (*Naville*). SG: Betlis, Walensee (450-520 m) 24.-25.vi.1995 1♂ 4♀ (*Merz & Eggenberger*). ZH: Embrach, Haumüli (400 m) 28.v.1997 1♂ 1♀, 9.v.1998 2♀ (all *Merz*), 30.iv.-5.v.1998 3♂ 1♀ (*Wolf*), 9.v.1998 1♂ (*Bächli*), 28.v.1997 1♀ (*Ruckstuhl*). AG: Aarau env. 11.v.1910 1♂, 20.v.1926 1♀ (*Zürcher*). **Slovenia:** Julian Alps, Pohorje Mts (1300 m) 17.vi.2006 1♂ (*Plant*).

105. *Hilara diversipes* Strobl, 1892

REFERENCES: Collin (1961: 576, as *H. germanica* Engel), Chvála (2005a: 198) – description and illustration of male fore leg, hind femur, female hind leg, and male genitalia.

DISTRIBUTION: A boreomontane species, widely distributed throughout Fennoscandia and Scotland, but then only in mountains of central Europe, south to the Alps where it occurs basically between 900 and 1900 m. Clearly a summer species, mainly from the end of June to August, replacing at many sites the early spring species *H. maura* and *H. hybrida*. Most of the spring records of Strobl (1898: 205) from the Styrian Alps actually refer to the following *H. hybrida* and partly also to *H. maura*.

MATERIAL EXAMINED: **Austria:** Oberösterreich: Totes Gebirge, Wurzeralm (1400 m) 30.vi.2002 1♂ 2♀ (*Chvála*). Styria: Kaiserau (1100 m) 7.viii.1891 2♂ 4♀ (*Strobl*); Admont, Kematengraben (1000 m) 26.vi.2002 2♂ 1♀, 9.vii.2001 1♂; Ardning, Ardningalm (1100 m) 27.vi.2002 8♂ 1♀; Gesäuse, Johnsbach (900 m) 5.vii.2002 1♂ 2♀; Kaiserau, Kalblingbach (1100 m) 1.vii.2002 common; Schladminger Tauern, Sölkpass, Innere Grössolk (1300 m) 7.vii.2001 2♀; Schladming, Untertal (1000 m) 6.vii.2002 2♂ 6♀; Rottenmanner Tauern, Bösenstein, Scheibelsee (1750 m) 6.vii.2002 9♀ (all *Chvála*). **Switzerland:** GR: Valbella, Casoja (1500-1550 m) 10.-24.vii.1996-1999 14♂ 9♀ (*Merz*); Ftan 12.-14.viii.1978 3♂ (*Bächli*); Zerne, Gondas (1480 m) 14.viii.1996 1♂ 1♀ (*Merz & Bächli*); Zuoz (1800 m) 19.vii.1972 1♂, 20.-22.vii.1971 1♂ 1♀; Samedan (1710 m) 17.vii.1985 1♂ (all *Sauter*); Engiadana Bassa, Ramosch (1050 m) 10.vii.1961 1♂ (*Keiser*); Tschiers 15.vi.1986 1♂; Sur, Alp Flix, Son Roc (1965 m) 1.viii.2004 1♀ (all *Haenni*).

106. *Hilara hybrida* Collin, 1961

REFERENCES: Collin (1961: 575 ♀) – description and illustration of female hind leg; Chvála (2005a: 200) – description and illustration of male fore leg, hind femur, female hind leg, and male genitalia.

DISTRIBUTION: Described from females only which were collected in Scotland, Norway and Germany. It is a species with a similar type of boreomontane distribution as *H. diversipes*. Both species occur in the same mountain biotopes in central Europe, but *H. hybrida* is a typical spring species, often collected together with *H. maura*, another spring species. Compared with these two related species of the *H. maura* complex (as defined by Chvála, 2005a: 196) *H. hybrida* is especially abundant in northern Europe as far north as Lapland. However, compared with *H. diversipes* it may be found in mountains of central Europe with preference at lower altitudes (500 to 800 m) rarely above 1000 m. Mainly in May, often in small swarms above streams and rivers.

MATERIAL EXAMINED: **Austria:** Oberösterreich: St. Pankraz, River Steyer (490 m) 12.v.2003 common. Styria: Admont (640 m) 3.v.2008 1 ♀, 12.v.2003 1 ♂; Gesäuse Eingang, Enns River (620 m) 18.-25.v.2003 swarms; Haller Mauern, Buchauer Sattel, Grossbuchau (850 m) 9.-13.v.2008 2 ♀; Mühlau, Esslingbach (750-900 m) 18.v.2003 swarms; Ziernitz, Mühlauerbach (900 m) swarms; Ennstal, Frauenberg, Edelgraben (680 m) swarms; Hieflau, Waaggraben (600 m) 24.v.2003 common; Weissenbach bei Liezen (700 m) 25.v.2003 swarms; Haller Mauern, Oberlaussa, Polzalmbach (750 m) 24.v.2003 swarms; Schaldminger Tauern, Untertal (1000 m) 6.vii.2001 1 ♀. Salzburgland: Salzburg, 10 km SE, River Almbach (565 m) 17.v.2003 3 ♂; River Lammer (800 m) 17.v.2003 swarms (all Chvála). **Switzerland:** BE: Lenk, Simmenfälle (1430 m) 31.v.2003 1 ♂ (Merz & Eggenberger). VS: Leuk, Platten (625 m) 30.v.2002 1 ♂; Leuk, Bahnhof (625 m) 15.v.2000 3 ♀ (all Merz). GL: Glaris, Linthal 1 ♀ (Oldenberg).

107. *Hilara nitidula* Zetterstedt, 1838

REFERENCES: Collin (1961: 572), Chvála (2005a: 202) – description and illustration of male fore leg, hind femur, female hind leg, and male genitalia.

DISTRIBUTION: A widely distributed species from Fennoscandia in the north, including Lapland and Kola Peninsula, south through temperate central Europe to the Alpine region and East Carpathians; rare in the Mediterranean, for instance in Croatia. In the Alps at altitudes usually up to 800 m only. Strobl (1893: 88) recorded it only from the Styrian Alps from the vicinity of Admont, but most of his records refer in fact to the following species, *H. nitidorella*, which occurs later in summer, and often at higher altitudes. In spring a very common species at lower altitudes in the Alps, forming swarms above rivers and streams. In warm Swiss lowlands already in April. It is replaced later in summer by a similarly common *H. nitidorella*.

MATERIAL EXAMINED: **Austria:** Oberösterreich (Totes Gebirge, St. Pankraz, River Steyer); Styria (Ardning, Admont, Gesäuse Eingang, River Enns, Johnsbach, Haller Mauern, Buchauer Sattel, Mühlau, Oberlaussa, Frauenberg, Weissenbach bei Liezen); Salzburgland (Salzburg, River Almbach, River Lammer); 3.v.-25.v. (620-880 m). **Switzerland:** GR (Roveredo, Trii, S. Vittore, Castagnola, Susch/1420 m); SG (Wattwil); VS (Baltschieder, Leuk, Noes); ZH (Zürich, Embrach); AG (Villnachern, Würenlingen); TI (Biasca, Tenero); 8.iv.-26.v. (205-650 m). **Italy:** AO: Aosta, St Vincent (880-1080 m) 13.-14.v.2006 4 ♂ 2 ♀ (Haenni). **Slovenia:** Julian Alps, River Bistrice (775 m) 19.vi.2006 1 ♂ (Plant).

108. *Hilara nitidorella* Chvála, 1997

REFERENCES: Chvála (2005a: 204) – description and illustration of male fore leg, hind femur, female hind leg, and male genitalia.

DISTRIBUTION: From the British Isles and the Baltic coast (Denmark, south Sweden) through the central parts of Europe south to the Alpine region. Common in lowlands but, in comparison with *H. nitidula*, often at high altitudes in the Czech mountains (Krkonoše Mts, Šumava Mts) and in the West Carpathians (Fatra Mts, Tatra Mts). Usually at altitudes above 1100 m. In the Alps locally very common, forming small swarms above mountain streams, not rare very high in mountains above 2000 m. A typical summer species, from June to August.

MATERIAL EXAMINED: **Austria:** Oberösterreich (Totes Gebirge, St. Pankraz, Hinterstoder, Rossleithen); Styria (Admont, Hieflau, Mühlau, Haller Mauern, Pyhrnpass, Kalkoffen, Ardnung, Gesäuse, Liezen, Frauenberg, Kaiserau, Johnsbach, Schladminger Tauern, Sölkpass, Schladming, Rottenmanner Tauern, Hohetauern); 17.vi.-9.vii. (490-1300 m). **Switzerland:** GR (Ftan, Clünas; Ausserferrera; Valbella, Casoja; Engiadina Bassa, Ramosch); GL (Klöntal, Richisau); TI (Biasca, Loderio); ZH (Embrach, Haumüli; Zürich); BE (Weissenburg im Simmental); 2.vi.-28.viii. (350-2100 m). **Italy:** South Tyrol: Sankt Valentin auf der Haide env., 11.vii.2007 4♂ (*Heřman*). **France:** Gard, Dourbies, La Rouvière, Crouzoulous (970 m) 15.vii.2005 1♂, Dourbies, 2 km SSE, rive du Crouzoulous (855 m) 21.vii.2009 1♂ 1♀, Dourbies, 1.7 km S, rive du Crouzoulous (960 m) 15.vii.2009 1♂ (all *Haenni*). **Slovenia:** Julian Alps, Vrsnik, River Lepena, River Bistrica (500-775 m) 19.vi.2006 (*Plant*).

109. *Hilara femorella* Zetterstedt, 1842

REFERENCES: Chvála (2005a: 205) – description and illustration of head, male fore leg and hind femur, and male genitalia.

DISTRIBUTION: A boreomontane, or rather a boreoalpine species in Fennoscandia common mainly in the north (Finmark, Lapland), and then only in high mountains of central Europe, at altitudes from 800 to 2200 m. It is one of the most common species of the genus above the timberline. In the north from July to the beginning of September, in the Alps up to the middle of September, although really common in July and August.

MATERIAL EXAMINED: **Austria:** Styria: Rottenmanner Tauern, Bösenstein, Scheibelsee (1750 m) 6.vii.-18.ix.2002-2007 swarms; Schladminger Tauern, Sölkpass (1900 m) 24.viii.2001 2♂ 4♀ (all *Chvála*); Donnersbachwald (1600 m) viii.1999 1♂ (*Barták*). Salzburgland: Obertauern, Grünwaldkopf (2000 m) 26.viii.1999 swarms (*Chvála*). Tyrol: Grossglockner (2200 m) 31.vii.1988 common. Carinthia: N of Gmund 31.vii.1999 1♂ (all *Barták*). **Switzerland:** GR: Ausserferrera (1600-2000 m) 1.-2.viii.1999 7♂ 12♀; Juf (2130 m) 3.viii.1999 7♂ 11♀; Lenzerheide, Sanaspans (2150 m) 14.vii.1996 1♂; Lenzerheide (2000 m) MT pasture 14.-31.vii.2000 5♂; Valbella, Casoja (1550 m) 13.vii.1996 1♀; Valbella, Lavoz (1600-1900 m) 19.vii.1996 1♂ (all *Merz*); Ftan, Clünas (2200 m) 5.viii.1996 3♂ 3♀; Zuoz, Nüd (1700 m) 7.viii.1996 common; Zernež, Gondas (1480 m) 4.viii.1996 common (*Merz & Bächli*); Samedan (1720 m) 20.vii.1987 2♀; Zuoz (1670 m) 21.vii.1971 1♂ (all *Sauter*); Cresta 26.-31.vii.1916 3♂ 3♀ (*Escher-Kündig*); St. Moritz 14.vii.1906 1♂ (*Oldenberg*); Sur, Caddotsch (2145 m) 3.viii.2004 2♂ 2♀; Sur, Malpass (2370 m) 3.viii.2004 1♂; Poschiavo, Li Curt (1010 m) 2.vii.2004 2♂ (all *Haenni*). VS: Oberwald 13.-15.viii.1975 1♂ (*Bächli*); Visperterminen (1900-2200 m) 24.vii.1992 2♂ (*Merz*). SZ: Unteriberg, Biet (1900 m) 24.-26.vii.2001 2♀ (ETH students). **Italy:** Passo Rolle (1900 m); Madésimo (Chvála 1997a: 280); Madésimo 30.-31.vii.1910 10♂ 19♀ (*Escher-Kündig*). **France:** Haute-Savoie, Pormenaz (1700-2200 m) 8.-31.vii.2003 MT 3♂ 6♀ (*Castella & Speight*). Gard, Forêt de l'Aigoual, Ginestous (1240 m) 22.vii.2004 1♂ 1♀ (*Haenni*). **Slovenia:** Julian Alps, Triglav, Aljažev dom (1100 m) 31.vii.1988 common (*Chvála*).

110. *Hilara sulcitaris* Strobl, 1892

REFERENCES: Chvála (1997a: 281) – description and illustration of head, male fore and hind leg, and male postabdomen with genitalia.

DISTRIBUTION: An endemic Alpine species, known from the Austrian, Swiss and Italian Alps only. An Alpine species known at altitudes above 1000 m, in July and August.

MATERIAL EXAMINED: **Austria:** Styria: Scheibleggerhochalpe near Admont, 27.vii. 2♂ 1♀; Rottenmanner Tauern, Scheiplsee (1750 m) 30.vii.1891 2♂ 4♀ (all syntypes) (all *Strobl*); Schladminger Tauern, Donnersbachwald (1600 m) viii.1999 MT 1♂ 1♀ (*Barták*); Gesäuse, Johnsbach (1050 m) 5.vii.2002 1♀; Kalbling (1500 m) 27.vii.1997 1♂ (all *Chvála*). Tyrol: Grossglockner (1700 m) 31.vii.1988 1♂ (*Barták*). **Switzerland:** VS: Vispterminen (1900-2200 m) 24.vii.1992 1♂ (*Merz*). **Italy:** Passo Rolle (1900-2000 m) 8.viii.1988 3♂ 5♀; Passo Sella (2100 m) 8.viii.1988 1♂ (all *Barták*).

111. *Hilara clypeata* Meigen, 1822

REFERENCES: Collin (1961: 581), Chvála (2005a: 207) – description and illustration of the wing radial fork, and male fore leg and genitalia.

DISTRIBUTION: A widely distributed species in Europe, from the British Isles and south of Fennoscandia to Spain, France, Romania and south of European Russia but nowhere common. It occurs at scattered sites often far away from water. Strobl (1892a) recorded it from Styria as a new variety *brevifurca* of *H. pinetorum* Zetterstedt, but the Zetterstedt's species is a junior synonym of *H. clypeata*, whereas *H. pinetorum* of Strobl is a mixture of several species, especially *H. brevistyla* Collin. In central Europe a spring species, mainly in May and June. Very rare in the Alpine region. This species is listed from Switzerland by Chvála & Wagner (1989) but we are unable to retrace the source of this record.

MATERIAL EXAMINED: **Austria:** Lower Austria: Gutensteiner Alpen, Gutenstein 1.vi., No.23187 1♂ (*Becker*). Styria: Admont, meadows (640 m) 17.vi.2007 1♂ (*Chvála*).

112. *Hilara tyrolensis* Strobl, 1892

SYNONYM: *Hilara miriptera* Straka, 1976, **syn. n.**

REFERENCES: Chvála (1997a: 285) – description and illustration of the wing radial fork, and male fore leg.

DISTRIBUTION: An endemic species of the Alps which was described from South Tyrol, and known so far from the Austrian, Slovenian and Italian Alps. In June and July, at altitudes above 1000 m.

MATERIAL EXAMINED: **Austria:** Styria: Scheibleggerhochalpe, Kaiserau (1100 m), Kalbling 17.vi. 2♂ 7♀ (*Strobl*); Kaiserau, Kalblingbach (1400 m) 15.vi.1997 1♂ 1♀ (*Chvála*). **Italy:** South Tyrol, Lusier Pass 19.vi.1890 1♂ (*Becker*); San Martino di Castrozza 24.vii.1914 1♂ 1♀ (*Oldenberg*). **Slovenia:** Julian Alps, Triglav, Aljažev dom (1100 m) 3.vii.1973 1♂ (holotype of *H. miriptera*) (*Chvála*).

NOTES ON ITS SYNONYMY: *Hilara miriptera*, described by Straka (1976) from a single holotype ♂ from the Slovenian Julian Alps, is proposed here as a new synonym of *H. tyrolensis*. The detailed description clearly shows in all details that *H. miriptera*

is conspecific with *H. tyrolensis*, including the illustration of the characteristic wing radial fork. According to Straka (1976: 13) the holotype should have been deposited in the Collection Chvála in the Prague Charles University (now in University Oxford), but it was very probably kept by V. Straka in the Collection of the Museum of Andrej Kmet' at Martin in Slovakia.

113. *Hilara discalis* Chvála, 1997

REFERENCES: Chvála (2005a: 213) – description and illustration of the wing radial fork, male fore leg, postabdomen, and genitalia.

DISTRIBUTION: A continental species of temperate central parts of Europe. Only 3♂ are known from the extreme south of Sweden (Skåne). Southwards it is distributed in central parts of Europe to Switzerland and Slovenia. Usually an uncommon lowland species, in the Alpine region up to 400 m only. In May and June, in the Carpathians up to July. Surprisingly not yet found in Austria, for instance in the Styrian Alps, although this part of the Alps is undoubtedly the best investigated.

MATERIAL EXAMINED: **Switzerland**: GR: S. Vittore, Monticello (280 m) 2.vi.1997 1♀ (*Merz*). AG: Villnachernm, Auwald (340 m) 10.vi.1986 1♂ (*Meier*). GE: Moulin de Veigy, source (410 m) 22.vi.2006 15♂ 1♀ (*Stucki*); Chaney, Vers Vaux (335 m) 1.vi.2002 1♂ (*Merz*). TI: Gordola (210 m) 17.v.2000 1♂ (*Merz & Ulrich*); Biasca, Loderio (350 m) 2.vi. 4♂ 2♀, 8.vii.1997 1♂ 1♀ (both *Merz*); Gordola, Verzasca-Ufer (205 m) 15.-19.v.2006 13♂ 4♀; Gordola, Bolle di Magadino (200 m) 19.v.2006 1♂ 2♀ (all *Merz*). ZH: Embrach, Haumüli (400 m) 19.v.-2.vi.1998 5♂ 3♀ (*Wolf*). **Slovenia**: River Čabranica (330 m) 15.vi.2006 2♂; Dsilnica, River Kolpa (240 m) 15.vi.2006 1♂ 1♀ (*Plant*).

114. *Hilara discoidalis* Lundbeck, 1910

REFERENCES: Collin (1961: 580), Chvála (2005a: 211) – description and illustration of male fore leg, female hind leg, and male genitalia.

DISTRIBUTION: Uncommon, but widely distributed in Fennoscandia including Russian Karelia, on the British Isles, and south to Hungary and the Alpine region. Mostly in lowlands, but sometimes in mountains, as for instance in the Šumava Mts (Böhmerwald), up to 1000 m; in the Alps at most at altitudes of about 350 m. It occurs for a long period from May to August. As for the preceding *H. discalis* records are still missing from Austrian Alps.

MATERIAL EXAMINED: **Switzerland**: GE: Cartigny, Moulin de Vert (350 m) 24.v.1999 1♂ (*Merz & Müller*). GR: S. Vittore, Rebberg (290 m) 2.vi.1997 1♀ 8.vii.1997 1♀ (*Merz*). TI: Biasca, Loderio, (350 m) 2.vi.1997 2♂, 28.vi.1992 1♀, 4.viii.1997 1♂, same (300 m) 16.v.2006 2♀ (all *Merz*); Novaggio (Strasse Magliasino) 19.v.1916 1♂ (*Escher-Kündig*); Gordola, Verzasca-Ufer (205 m) 15.v.2006 1♂ (*Merz*).

115. *Hilara media* Collin, 1927

REFERENCES: Collin (1961: 583), Chvála (2005a: 214) – description and illustration of the wing radial fork, male fore leg, and male postabdomen and genitalia.

DISTRIBUTION: A widely distributed species, from England including Wales, the Netherlands and Poland, through central parts of Europe south to France, Romania and Bulgaria. In temperate Europe at higher altitudes and in mountains, in the Moravian

Beskydy Mts, east to West Carpathians (Slovak Velká Fatra Mts, Bukovecké hory Mts) and to the Bulgarian Rhodope Mts (as *H. bechevi* Dzhambazov); fairly common in south-west Europe, for instance in the Pyrenees. Here recorded for the first time from Switzerland, but not yet found in Austria, although it should occur there as well. For a long period from May to August.

MATERIAL EXAMINED: **Czech Republic:** Beskydy Mts, Horní Lomná (520 m) 20.vi.1968 1♂ (*Barták*). **Slovakia:** Velká Fatra Mts, Gaderská dolina 28.vii.1970 1♂; Blatnická dolina 28.vii.1970 3♂ 2♀ (all *Straka*); Poloninské Karpaty Mts, Stučica 16.vii.1963 2♂ (*Chvála*). **Bulgaria:** Rhodope Mts, Hrabrino, S of Plovdiv (Dzhambazov, 1998: 327). **France:** Gard, 2 km W Dourbies, Le Mouner (750-820 m) 5.vii.1991 1♂ 2♀; Gard, Dourbies, La Rouvière, Crouzoulous (970 m) 15.-23.vii.2005 8♂ 9♀; Dourbies, 2 km SSE, rive du Crouzoulous (855 m) 21.vii.2009 1♀ (all *Haenni*); Var, Gorges du Verdon, Pont de l'Artuby (730 m) 17.-19.v.2003 2♀ (*Castella & Speight*). Pyrenees, Fabian (1100 m) 9.vii.1990 1♂ (*Barták*); Pyrenees-Or., Col de Palomère, La Bastide (1100 m) 13.vi.2007 1♂ (*Merz*). **Switzerland:** SH: Rüdlingen, Heimstätte (380 m) 4.vii.1998 1♂ (*Merz & Eggenberger*).

Group 14 – *H. albitarsis*-group

For a characterization of this group, and a revision of the European species, see Chvála (2005a: 216 and 2008a: 133).

116. *Hilara albitarsis* von Roser, 1840

REFERENCES: Collin (1961: 570), Chvála (2005a: 216) – description and illustration of the wing radial fork, male fore and hind leg, and genitalia.

DISTRIBUTION: From the British Isles and southern parts of Fennoscandia south through central parts of Europe to the Alpine region. A spring species, everywhere uncommon. More often found in lowlands. In the Alps from April to June, towards north in Europe until July. Strobl (1892a) described this species from Lower Austria (Seitenstetten) twice, the males as *H. braueri*, and the females as *H. argyrosoma*. In the Alps sometimes at higher altitudes, generally up to 900 m, though even at 1550 m. Strobl (1898: 206) recorded it in the Styrian Alps at Kaiserau (1100 m) and Kalbling (about 1400 m) as *H. niveipennis* Zetterstedt var. *a* and *b* (the var. *c* was *H. albipennis* von Roser). Later, Strobl (1910: 70) recorded *H. albitarsis* (again as *H. niveipennis*) also from the vicinity of Admont (640 m) and from Hohentauern in the Rottenmanner Tauern (1300 m).

MATERIAL EXAMINED: **Austria:** Styria: Kaiserau (1100 m) 17.vi.1896 2♂ (*Strobl*); Radmer, 6 km S of Hieflau, Weissenbach – Radmerbach (650 m) 24.v.2003 3♂; Haller Mauern, Buchauer Sattel, Grossbuchau (850 m) 31.v.2009 1♀ (all *Chvála*). **Switzerland:** GE: Cartigny, Moulin de Vert (350 m) 29.iv.1999 1♂ 1♀ (*Merz*). VS: Jeitzinen (1550 m) 26.vi.1999 1♂ (*Merz & Eggenberger*); Leuk, Brentjong (900 m) 17.-18.v.1996 3♀ (*Merz & Bächli*); Leuk, Pfywald (630 m) 23.iv.1998 1♀ (*Merz & Botta*). GR: Arosa (1800 m) 28.vi.1955 (*Ringdahl*). ZH: Zürich, Zürichberg (650 m) 18.v.1998 1♀ (*Merz*).

117. *Hilara bohémica* Straka, 1976

REFERENCES: Chvála (1997c: 297) – description and illustration of male fore leg and genitalia.

DIAGNOSIS: A medium-sized species (body about 2.5 – 3.5 mm long) of the *H. albitarsis*-group. Body and legs uniformly black and without distinct bristles. scutum

finely silvery-grey dusted with 3 indistinct dark stripes, and irregular 2- to 4-serial *acr*; haltere black. Pubescence on abdomen and legs pale, legs almost shining black, with all femora and tibiae distinctly silvery pilose beneath; ♂ f_3 slightly swollen and finely spinose beneath, and bt_1 rather long and slender, as deep as corresponding tibia at tip; abdomen in ♀ uniformly contrasting silvery-grey dusted, t_3 unmodified, long and slender. For a full redescription with illustrations, and its synonymy with *Hilara baehrmanni* Straka, 1985, see Chvála (1997c).

DISTRIBUTION: Central European species. Besides the Alpine region known only in lowlands of Germany, Czech Republic and Poland, although for instance in the Krkonoše Mts (Riesengebirge) at altitudes above 1300 m. In Switzerland a widely distributed but everywhere an uncommon spring species, mainly in May, rarely to the beginning of July; surprisingly not yet found in Austria. In the Alps mainly at lower altitudes up to 800 m, rarely at 1550 m (VS, Jeitzinen).

MATERIAL EXAMINED: **Switzerland:** NE: St. Blaise, Les Riedes (470 m) 19.v.2001 1♂. GR: S. Vittore, Rebberg (290 m) 8.vii.1997 1♂ (all *Merz*). GE: Cartigny, Moulin de Vert (350 m) 4.v.2003 1♂ (*Merz & Eggenberger*), same (360 m) 1.v.1999 1♀ (*Merz*). VS: Leuk, Pfywald (600 m) 6.vi.2001 1♀ (*Merz & Landry*); Leuk, Brentjong (900 m) 19.v.1996 1♂ (*Merz & Bächli*); Eggerberg (750-850 m) 23.v.1998 1♀; Baltschieder, Chumme (650 m) 23.v.1998 1♂ (all *Merz*); Jeitzinen (1550 m) 26.vi.1999 1♂ (*Merz & Eggenberger*). SH: Hemmental, Möslì (830 m) 30.v.1996 1♂; Merishausen, Osterberg (770 m) 30.v.1996 1♀; Sieblingen, Randenhau (830 m) 30.v.1966 1♂ (all *Merz*); Merishausen, Gräte (520-720 m) 1.vi.1996 1♀ (*Merz & Eggenberger*). TI: Gordola, Verzasca-Ufer (205 m) 15.v.2006 1♀; Mte. S.Giorgio, Meride ob Dorf (580 m) 18.v.2006 3♀ (all *Merz*). SO: Hausenstein, Ifenthal, 10 km W of Olten) 24.v.2001 1♀ (*Artmann*). JU: Delémont, Fin de Bâle, Birse (420 m) 17.v.1989 1♂ (*Gonseth*). **France:** Drôme, Col de Tourniol (1050 m) 26.v.2006 16♂ 18♀; Grand Bois, 30 km S of Lyon (440 m) 21.v.2006 1♂ (all *Barták*). **Italy:** AO: Aosta, St. Vincent, Salirod (1080 m) 14.v.2006 1♂ (*Haenni*).

ADDITIONAL SPECIES

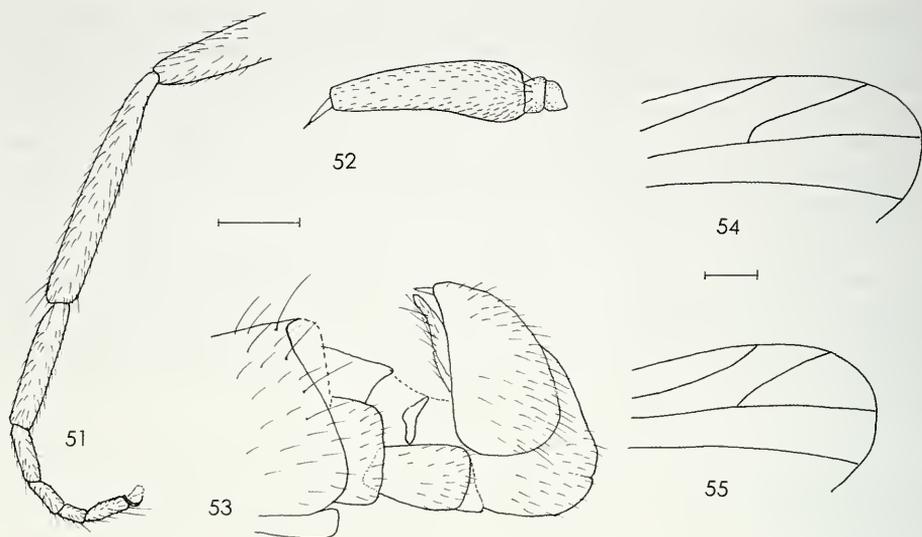
Hilara longicornis Strobl, 1894

Figs 51-58

DIAGNOSIS: A small dull dark grey dusted species about 2 – 3 mm long, with unusually long antennae, very short labrum, and both fore leg in male and hind tibia in female long and slender, unmodified. Frons and occiput dull black, *acr* small and numerous, 4-serial at middle, nearly 2-serial anteriorly and posteriorly. Abdominal pubescence pale.

REDESCRIPTION:

Male. Frons very wide, as wide below as antennal segment 3 at base, very triangularly widening above, about twice as wide at level of upper ocelli; face as wide as frons below, silvery-grey dusted with clypeus narrowly shining black; frons, vertex and occiput dull velvety black to blackish-brown, occiput with a greyish tomentum visible in some lights. All hairs and setae on head blackish, ocellar setae short and fine, about as long as third tarsomere on fore leg, postvertical bristles of the same length, but frontal setae very small and fine, or quite absent. Antennae (Fig. 52) with an unusually long segment 3, style very short. Palpi blackish-grey, small, ventrally before tip with 2 or 3 short black bristly-hairs. Labrum very short, shorter than half-length of head height.



FIGS 51-55

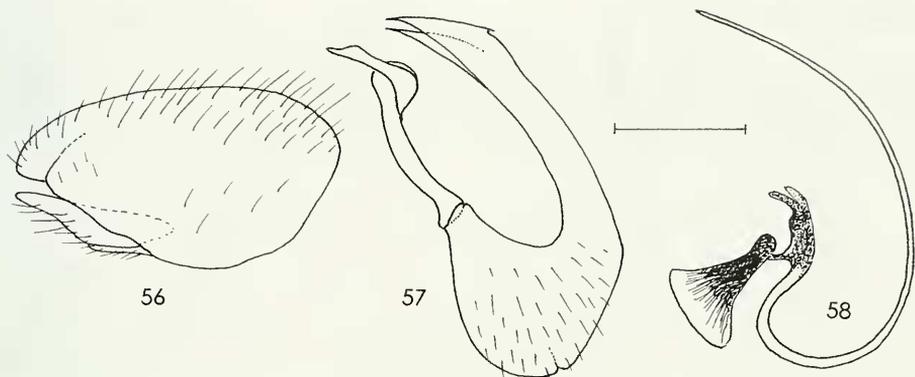
Hilara longicornis Strobl (H. Hajós, syntypes). (51) Male fore leg in posterior view. (52) Male antenna. (53) Male postabdomen (macerated). (54) Radial fork of male wing. (55) The same in female. Scale: 0.2 mm.

Thorax uniformly dull greyish both on scutum and pleura, the latter in some lights with a tendency to be translucent brownish, and scutum with a slight indication of two darkenings between lines of bristles: *acr* and *dc* blackish, small and numerous, more than 10 setae in one row; *dc* uniserial, *acr* clearly 2-serial anteriorly and posteriorly, 4-serial at middle; marginal bristles in full number but rather short and fine, including 2 pairs of *sc*, outer pair as long as last pair of *dc*, and inner pair not much longer. Pronotum with a small seta on each side, all hairs and setae on thorax blackish.

Wings almost clear, with a tendency to be faintly yellowish-brown infuscated, veins dark brown, radial fork (Fig. 54) with upper vein rather short and straight, not of the usual "hilarine"-type, and anal vein is abbreviated. Squamae brownish with whitish fringes, haltere uniformly blackish.

Legs uniformly blackish, slender and unmodified, covered with short blackish or nearly brownish hairs, strong black bristles confined to the usual row of about 5 strong bristles on f_2 anteriorly, some slightly longer black setae also on f_1 posteriorly, but f_3 and t_3 with only fine short bristly hairs; coxae with short black bristles. Fore leg (Fig. 51) unusually long and slender, also bt_1 unmodified, not swollen, and all tibiae with only a small ring of preapical bristles.

Abdomen dull blackish-brown, finely silvery-grey pollinose, with very pale, light brownish short fine pubescence, but the rather small hind-marginal bristles on the terga clearly black. Genitalia (Figs 53, 56-58) with a distinct produced hypandrium, which is apically broad and deeply bifid at tip, lateral lamella is long ovate, clothed with short fine pubescence only, and the broad apical process is only indistinctly separated.



FIGS 56-58

Hilara longicornis Strobl ♂ (H. Hajós, syntype). (56) Lateral genital lamella with cercus. (57) Hypandrium with postgonite. (58) Aedeagus with aedeagal apodeme. Scale: 0.2 mm.

Length: body 2.5 – 3.0 mm, wing 2.5 – 2.7 mm.

Female. Very much like male in all details including the structure and bristling of legs. However, antennal segment 3 seems to be obviously narrower, and abdomen is without the black hind-marginal bristles on terga. The only real distinction seems to be the shape of the radial fork of the wing which is in female clearly “oreogetonine”-like (Fig. 55), and the whole wing is shorter.

Length: body 2.0 – 2.8 mm, wing 2.3 – 2.5 mm.

DIFFERENTIAL DIAGNOSIS: This species can be easily recognized by its unusually long antennae, in combination with unmodified slender legs in both sexes. All the main differential features (light grey dusted and finely bristled species, legs long and slender with long tarsomeres and practically devoid of distinct bristles, *acr* and *dc* small and fine, hair-like and numerous, female *t*₃ slender) clearly show that *H. longicornis* belongs to the *Hilara litorea* group of species as defined by Chvála (2005a: 89).

DISTRIBUTION: Still known only from the lowlands of Hungary, from the “type” locality Hajós, a small village on the left side of the River Danube near Kalocsa.

MATERIAL EXAMINED: **Hungary:** Hajós, riverside of the Danube, 1.v.1893 3♂ 2♀ (syntypes) (*Thalhammer*) (BSA).

REMARKS: Although Becker (1894) saw a pair of *H. longicornis*, sent to him for study by Strobl, he erroneously identified this species in the oreogetonine genus *Iteaphila* Zetterstedt (as *Steleochaeta* Becker). Becker considered the structure of the long antennae to be identical with species of the genera *Iteaphila* and *Anthepiscopus*. He supported this argument also by the structure of the head (frons, palpus and labrum), and the “open”, oreogetonine type of radial fork on wing. It is clear, however, that *H. longicornis* is a species of the genus *Hilara*. The details of male genitalia as shown in Figs 56-58 unambiguously support such a classification.

Hilara flavocoxa Straka, 1976

Figs 60-61

DIAGNOSIS: A small subshining black species about 2 – 3 mm long, with legs brownish-yellow but at least fore leg yellowish at base, occiput dull black, haltere black, and wings very dark brown. All hairs and bristles black, antennal style long, bt_3 with distinct black anterodorsal setae as in *H. merula* Collin.

REDESCRIPTION:

Male. Head dull black on frons, vertex and occiput, face with a slight grey tomentum. Frons wide, distinctly widening above, face narrower; all hairs and setae on head black, the ocellar bristles long and strong, frontal setae slightly shorter and finer, upper postvertical setae much smaller. Antennae black, segment 3 small, about twice as long as deep, style long and rather stout, longer than segment 3. Palpi blackish, with a strong black preapical seta beneath; proboscis small, scarcely half as long as head is high.

Thorax black, scutum clearly subshining, pleura finely dark grey pollinose. All hairs and bristles black, marginal bristles, including *h*, *ih* and *ph* long and strong; *acr* rather narrowly 2-serial and almost straight, *dc* 1-serial, strong, nearly as long as antennal segment 3 without style, and all scanty, at most 10 setae in a row. A pair of long inner *sc* setae, outer pair very small. Pronotum with a strong seta on each side.

Wings very dark brown, veins black, a long black costal bristle, and radial fork long and narrow; anal vein practically absent. Squama blackish with dark fringes, haltere black, base of stalk scarcely brownish.

Legs long and slender, almost uniformly dark brownish-yellow, leaving only tarsi blackish, sometimes legs very darkened, but cx_1 and base of f_1 always yellow. All hairs small and fine, black, only tibiae with longer preapical bristles; f_2 with a few short anterior bristles, and bt_3 (Fig. 61) with 1 or 2 distinct anterodorsal setae before tip; fore leg (Fig. 60) with tibia distinctly widening towards tip, bt_1 uniformly stout, characteristically produced at tip, which bears several short but strong black bristles. Tarsomeres on all pairs longer than deep including on fore leg (Fig. 60).

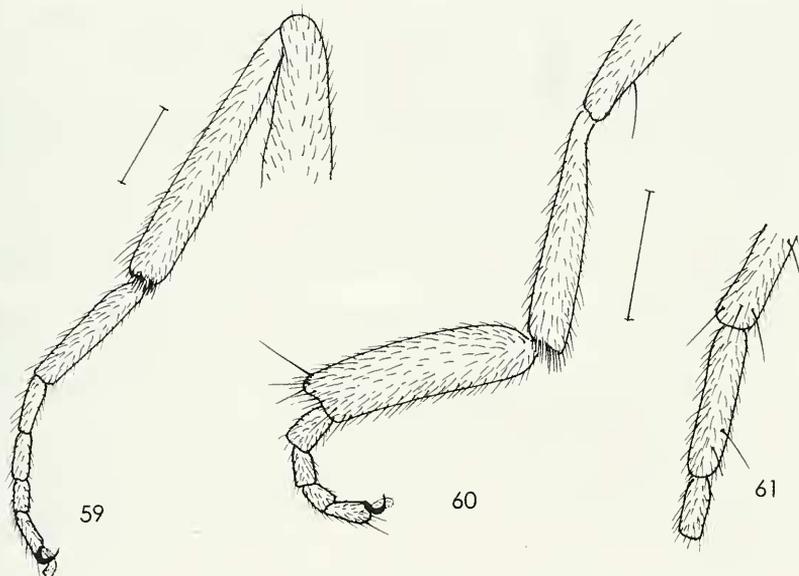
Abdomen rather dull black, scarcely subshining in some lights, and basal sterna with a tendency to be yellowish; pubescence short and fine, blackish, hind-marginal bristles fine and small. Genitalia (illustrated by Straka, 1976: 13, Figs 13 and 14 a-e) with a large, laterally compressed circular hypandrium, pubescence short and fine, black.

Length: body 2.7 mm, wing 3.0 mm; according to Straka (1976) body 2.8 – 3.0 mm, wing 2.7 – 3.0 mm.

Female. Very much like male in all details, only fore leg simple, and t_3 although slender, slightly widening towards tip, and when viewed from behind scarcely curved; bt_3 with the same distinct anterodorsal bristle before tip.

Length: body 2.1 mm, wing 2.6 mm; according to Straka (1976) body 2.3 – 2.5 mm, wing 2.7 – 2.9 mm.

DIFFERENTIAL DIAGNOSIS: A species of the *Hilara canescens* group, very similar in the main diagnostic features as *H. merula* Collin, differing from this species immediately by the 2-serial *acr* setae, and by the less bristled legs, with male bt_1 dorsally produced at tip.



FIGS 59-61

Hilara simplicipes Strobl ♂ (A. Carinthia, Paternion, syntype). (59) Fore leg in anterior view. - *Hilara flavocoxa* Straka ♂ (SK, Slovakia centr., Kremnické vrchy, Turček, paratype). (60) Fore leg in anterior view. (61) Hind basitarsus in dorsal view. Scale: 0.2 mm.

DISTRIBUTION: This species is still known only from the type series of 2♂ and 3♀ collected by V. Straka at Turček in the Kremnické vrchy (Kremnicke hills) of western Slovak Carpathians.

MATERIAL EXAMINED: **Slovakia:** Slovakia centr. Turček 3.viii.1971 1♂, 9.viii.1970 1♀ (paratypes) (Straka) (UMO).

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Species names *in italic* are synonyms.

The numbers **in bold** refer to the number where the species is listed in the taxonomic treatment. The letter "A" refers to the species treated under "additional species" at the end of the chapter. The numbers in normal text indicate the couplet(s) where the species is keyed or mentioned in the key.

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